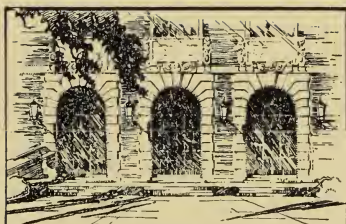


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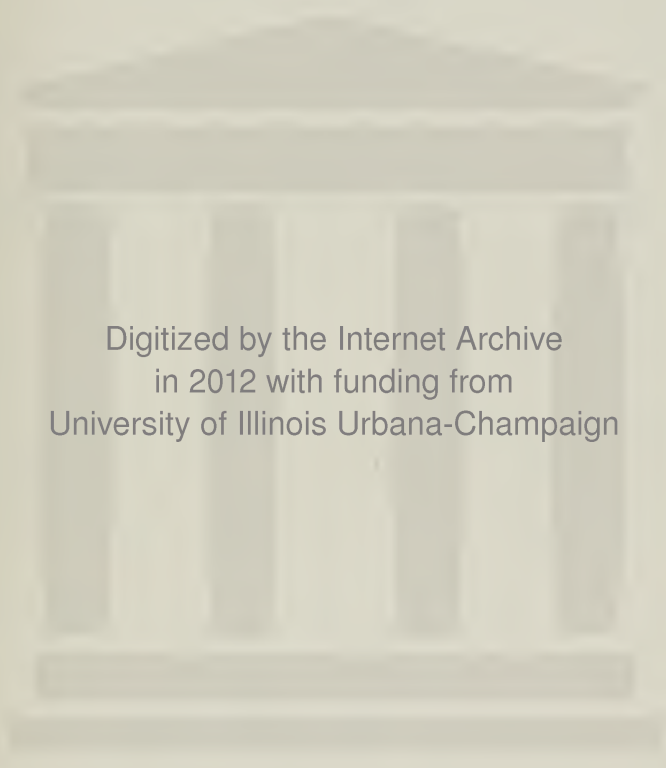
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UNIVERSITY OF ARKANSAS

BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

AND

OFFICERS

FOR THE

YEARS 1898-99 AND 1899-1900.

FAYETTEVILLE, ARK.

1900.

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# UNIVERSITY OF ARKANSAS

BIENNIAL REPORT

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FAYETTEVILLE, ARK.

1900.



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# BIENNIAL REPORT.

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*To His Excellency, Dan W. Jones, Governor of  
Arkansas.*

SIR—In accordance with the requirements of law, the Board of Trustees of the University of Arkansas has the honor to submit the following biennial report, covering the years 1898-99 and 1899-1900.

There are presented herewith the reports of the President and other officers of the University, including those of the Secretary and Treasurer. An examination of these will in large measure reveal the progress, the present condition, and future needs of the institution.

## MEETINGS OF THE BOARD.

The board has held the regular annual meetings at the University as required by law, and also such special meetings as a faithful discharge of the duties imposed by the trust committed to their hands seemed to demand. At the annual meetings several days were consumed in inspecting the finances of the institution, in inquiring into the condition and work of the several departments, the methods of instruction employed, the general discipline maintained, the efficiency of the instructional force, and in witnessing the public exercises at the close of the sessions.

## GENERAL CONDITION OF THE UNIVERSITY.

The facts ascertained in these meetings and the information gained from individual observation and inquiry warrant the statement that the two years covered by this report have been the most prosperous in the history of the University. Statistics and other information tending to confirm this statement are presented in the subjoined report of the President and other officers of the University.

The fact is clearly recognized that the demands made by modern civilization upon institutions of learning are far greater and more varied than was the case a few decades past. Industrialism and commercialism, which are the dominant forces of modern life, have invaded the domain of education, as they have also that of municipal, state and national legislation. Hence, the scientific, the technical, the practical, claim a large place in the field occupied by institutions of learning. The effort to meet these varying and increased demands has resulted not only in the organization of a number of special schools but also in large additions to the courses of instruction in existing colleges, and especially in universities. But no institution, however vast its resources, can cover with its curriculum the whole circle of knowledge, indefinitely extended and diversified as it is at the present day. Hence, in the case especially of an institution of comparatively limited resources, wisdom dictates the selection of such subjects as can be most usefully and efficiently taught. This selection includes subjects belonging to three general departments which, though overlapping at certain points and more or less closely correlated, are yet distinct. They are, *first*, the department of Liberal Arts; *secondly*, that of Pure Science; and *thirdly*, that of Technology, or applied science. These general views are here presented, *first*, as indicating the basis of correct judgment as to the proper functions of our State University—what ends it should aim to accomplish and what means should be employed for their accomplishment; and *secondly*, as shaping the policy which the Board of Trustees have aimed to pursue. That policy has been to maintain in full vigor courses of instruction in those subjects which long experience has proven to be sound and substantial elements of a liberal education, and *secondly*, to make as ample provision as available resources will permit in the way of laboratories, apparatus, museums, machinery, tools, etc., for instruction and training in science and technology, meaning by the latter the applications of scientific principles to the industrial arts. A judicious combination and correlation of these subjects in one institution, with adequate funds for supplying the requisite teaching force and the necessary equipment, is

coming to be regarded as the typical American university.

At any rate the board has borne in mind the purpose defined in the Acts of Congress donating public lands and the proceeds of the sale thereof to the several states, namely, to establish and aid in the support of institutions for the "liberal and practical education of the industrial classes." The State of Arkansas by acts of its General Assembly accepted these donations and pledged a compliance with the provisions of the Congressional acts making them. Good faith requires the maintenance of this pledge in such way and by such means as are practicable. Expediency also urges the same thing. The South has entered on a period of increased industrial and commercial activity, and therefore present and prospective conditions demand a larger measure of general intelligence and technical skill. The rich and varied resources of our own state emphasize the expediency of making an earnest effort to meet these demands. Other sections of the country are making increased provisions to meet them. Says the report of the committee on resolutions of the National Educational Association at the recent meeting in Charleston, S. C.: "We note with satisfaction the rapid extension of provision for adequate secondary and higher education, as well as for technical, industrial and commercial training. National prosperity and our economic welfare in the years to come will depend in no small measure upon the trained skill of our people as well as upon their inventiveness, their persistence, and their general information." Again, as indicating the purposes and aspirations of this great association, the report further says: "We renew our pledge to carry on the work of education entrusted to us in a spirit which shall be not only non-sectarian and non-political but which shall accord with the highest ideals of our national life and character. With the continued and effective support of public opinion and of the press for the work of the schools, higher and lower alike, we shall enter upon the new century with the high hope born of successful experience and of perfect confidence in American policies and institutions." Now, the policy which is shaping the work of the University of Arkansas has been indicated with sufficient clearness, and that is, the



maintenance of the three general departments previously outlined, and the organization of as many special departments in each as the funds at command would permit.

The important fact, however, is not overlooked that the fundamental idea of all education, whether general or special, is to form upright character, inculcate judicious self control and develop an earnest purpose in life, whatever be the vocation contemplated. These things are the basis of law abiding, honorable and useful citizenship. But these and all other valuable ends attainable by education depend most largely on the teaching force employed. Hence the most important duty resting on a Board of Trustees is the selection of teachers. For, if the best results are to be attained, men are to be chosen who possess not only scholarly ability, but breadth of view and elevation of tone and spirit, such that their daily lives as well as their formal precepts are an inspiration to those under their instruction. But such men are not usually low priced.

Again, the requisite buildings and equipment for thorough instruction, especially in scientific and technical courses, is necessarily expensive. The present equipment of the University cost quite a sum of money and adds greatly to the efficiency of the departments to which it belongs, but it could be very profitably enlarged, if there were funds available for the purpose. So also could other departments be usefully added to those already organized, such as mining engineering, architecture, a textile school, domestic science for young women, etc.

The question as to what financial support shall be given the University is left to the wisdom of the legislature to determine. The institution is the property of the State. It was established by the State. It has been fostered by the State, and its future prosperity and usefulness depend in large measure on the liberal support accorded it by the State. Due regard is to be had to the interest of the taxpayer and also to the fact that there are many demands on the State treasury. But the taxation necessary to an adequate support of the University can hardly be considered in and of itself burdensome. The assessed values of the State are in round numbers \$188,000,000. An annual assessment of 3-10

of a mill on the dollar of this sum yields \$58,400, which is a much larger sum than has ever been appropriated annually to the University. But it is understood that property in Arkansas is assessed at not above 50 per cent. of its real value. Hence a man worth \$2,000 pays taxes on only \$1,000, and at the rate of 3-10 of a mill on the dollar (3 cents on the \$100) he pays only thirty (30) cents a year for the generous support of the State University. Such a rate of taxation can hardly be regarded as oppressive to the poor man.

A statement of the total annual income of some of the State Universities may be of interest:

Ohio .....	\$277,593
Illinois .....	379,294
Kansas .....	175,500
Missouri .....	170,821
Wisconsin .....	426,663
Minnesota .....	398,177
Nebraska .....	287,000
California .....	485,000
Virginia .....	132,916
North Carolina .....	48,000
Alabama .....	42,000
Georgia .....	70,000
Texas .....	150,000
Tennessee .....	77,149
Louisiana .....	47,000
Arkansas .....	61,000

These figures are for last year and are reported by the presidents of these institutions. Most of these States are wealthier than Arkansas, but a number of them sustain other State educational institutions besides their universities.

In considering the sources of income for the ensuing two years, the board finds that but one year's interest on the Washington county and Fayetteville bonds can be included. These bonds mature January 1, 1902. If they are paid at maturity it is hoped that the Legislature at its approaching session will not fail to make provision for the investment of this endowment fund.

The liberal appropriation made by the last Legislature has enabled the board to meet promptly all the current expenses of the University, to make a valuable addi-

tion to the Chemical Laboratory, to erect two new buildings on the University farm, to make needed repairs on other buildings, to improve the grounds adjacent thereto, to add to the equipment of the laboratories and shops, to supply furniture for lecture rooms and the library, and to purchase a number of new books.

Some idea of the nature and value of the work carried on by the Experiment Station is shown by the following bulletins which have been published during the last two years, and widely distributed among the farmers of the State:

Bulletin 52—"Feeding Value to Steers of Cotton Seed, Ground Cotton Seed, Cotton Meal and Hulls. Effect of Temperature."—R. L. Bennett.

Bulletin 53—"A Report of Progress of Investigations in the Chemistry of Wheat."—G. L. Teller.

Bulletin 54—"Some Experiments of the Fattening Value of Certain Foods Gathered by Pigs."—R. L. Bennett.

Bulletin 55—"Orchard Cultivation."—J. T. Stinson.

Bulletin 56—"Tomatoes, Cabbage and Onions."—C. L. Newman.

Bulletin 57—"The Relative Virulence for the Domestic Animals of Human and Bovine Tubercle."—R. R. Dinwiddie.

Bulletin 58—"An experiment in grazing a corn and cowpea field with steers. Experiments with Peanuts, Legume Manuring, Cotton Meal, whole and crushed Cotton Seed Manuring and Varieties of Cotton."—R. L. Bennett.

Bulletin 59—"The Comparative Yield of Corn from Seed of the Same Variety Grown in Different Latitudes."—C. L. Newman.

Bulletin 60—"Second Report on Arkansas Seedling Apples."—J. T. Stinson.

Bulletin 61—"Annual Plants for Summer Hay and Pasture; for Winter Hay and Pasture, and for Forage or Coarse Fodder; Permanent Plants for Meadow and Pasture; Special Crops for Pig Grazing."—R. L. Bennett.

For more detailed statements of the work done in the several departments of the station reference is made

to the reports of the Director and his associates, which are included in this general report.

The number of schools accredited to the University has increased somewhat during the current two years. The policy pursued by the faculty in this regard has had the approval of the board.

At the request of the board, Dr. Junius Jordan and Prof. W. A. Crawford have, during the two past vacations, visited a number of points in the State with a view to making more widely known the advantages offered by the University. They have rendered valuable service in this behalf.

The Medical and Law Schools, located at Little Rock, while not financially connected with the University, are a part of the general organization, and are commended as offering valuable opportunities for professional training and as worthy of the patronage of the people of the State.

The report of the Principal of the Branch Normal College at Pine Bluff is submitted herewith. The report shows the condition and progress of the school, and the commendable work it is doing in the industrial and normal training of colored youth.

The board hereby presents estimates of the amount of funds needed for the current expenses of the University during the ensuing two years. These estimates are based not on the ground of anticipated reduction in the amounts named, but on what are conceived to be the actual needs of the institution :

Agricultural .....	\$ 3,000
Ancient Languages .....	150
Art .....	3,500
Biology .....	1,000
Campus .....	1,000
Chemistry and Physics .....	2,000
Civil Engineering .....	2,500
Dormitory .....	1,000
Economics and Sociology .....	150
Electrical Engineering .....	2,500
Elocution and Physical Culture..	1,000
English and Modern Languages..	250
Fuel .....	2,500
Geology and Mineralogy .....	1,000

History .....	150
Horticulture .....	2,000
Infirmary .....	250
Insurance .....	2,000
Janitor .....	2,000
Library .....	1,000
Magazine and Annual .....	200
Mathematics .....	1,700
Mechanical Engineering .....	2,500
Mechanic Arts, wood working and machine shops, etc. ....	1,500
Military. ....	600
Museum .....	700
Musical .....	250
Philosophy and Pedagogy .....	200
Enlargement of Shop Buildings, for drawing, storage, working rooms .....	2,000
Plumbing and Water Filter .....	500
Postage .....	500
Repairs .....	1,500
Salary .....	53,200
Secretary to President .....	500
Stationery and Printing .....	1,500
Student Labor .....	5,000
Trustee .....	1,200
Water .....	1,200
Total .....	\$103,500

It is also recommended that the following special appropriations be made:

1. For the maintenance of a course in Mining Engineering in connection with the Department of Geology, \$3,000, said sum to be used in paying an Instructor in Mining Engineering for two years, and for furnishing the laboratory equipment for the course.

2. For establishing a Textile school in the University, \$10,000.

3. For erecting an Engineering building, \$20,000. Such a building is greatly needed to afford more and better room for work in the several departments of Engineering, and better facilities for caring for the costly



and valuable machinery and apparatus now housed in the basement of the main building.

Respectfully submitted,

(Signed)

T. A. FUTRALL,  
J. B. McDONOUGH,  
C. C. HAMBY,  
V. Y. COOK,  
J. C. MITCHELL,  
T. M. SEWALL,  
Trustees.

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## PRESIDENT'S REPORT.

FAYETTEVILLE, ARK., June 18, 1900.

*To the Board of Trustees of the University of Arkansas.*

GENTLEMEN—I have the honor to submit the following biennial report of the University for the years 1898-1899 and 1899-1900.

It is gratifying to be able to make the general statement that in the elements of substantial progress and prosperity the two years just closing, and especially the last year, exceed any since the foundation of the institution. The facts justifying this general statement are, the number of students in attendance, the strengthening of some departments of instruction, the addition to the teaching force, the intellectual activity and healthful moral tone prevailing, the improved condition of the buildings and grounds, and the addition to the equipment and facilities, especially for technical and practical instruction.

### COURSES OF STUDY.

During the period covered by this report the courses of study have been revised and so arranged as to lead to the following undergraduate degrees:

Bachelor of Arts (B. A.).  
Bachelor of Philosophy (B. Ph.).  
Bachelor of Science (B. S.).

Bachelor of Mechanical Engineering (B. M. E.).  
Bachelor of Civil Engineering (B. C. E.).  
Bachelor of Electrical Engineering (B. E. E.).  
Bachelor of Scientific Agriculture (B. S. A.).

Some modifications have also been made in the courses leading to graduate degrees, which are conferred for advanced work in the subjects leading to undergraduate degrees.

To those who complete the Normal course (course in Pedagogy) certificates of Licentiate of Instruction (L. I.) are awarded. Short courses of two years each are provided in Mechanical and in Electrical Engineering, and also a special course, including Music, Art and Elocution, on the completion of any one of which appropriate certificates are awarded.

#### COURSES OF STUDY.

The University offers instruction in the following subjects:

Mathematics and Astronomy.  
Chemistry and Physics.  
Geology and Mineralogy.  
Biology (General Biology, Botany, Zoology and Entomology).  
Latin and Greek.  
English and German.  
French, Spanish and Italian.  
Philosophy (General Philosophy, Psychology, Ethics and Logic) and Pedagogy.  
History and Political Science.  
Economics and Sociology.  
Mechanical Engineering.  
Electrical Engineering.  
Civil Engineering.  
Agriculture and Horticulture.  
Military Tactics (Theoretical and Practical).  
Art (including Painting, Drawing).  
Music (including Vocal and Instrumental).  
Expression (Elocution and Oratory).  
Physical Culture.

The subjects above designated show the range of instruction now offered by the University, and it is as extensive and varied as the resources of the institution can



provide for and the teaching force efficiently maintain. So numerous and so widely extended and so diversified have become the departments of knowledge during the present century that no one institution, however large its resources, can reasonably undertake to cover them all. One result of this is the multiplication of Special Schools; another is the introduction of the elective system in universities and colleges, and a tendency more or less manifest to do the same thing even in high schools. In present conditions, therefore, the wise thing for an educational institution to do is to select such subjects of instruction as experience has demonstrated to be of sound educational value, and, as far as practicable, such as are most closely related to the professional and business life of the people, and to do thoroughly the work undertaken. For after all, the institution which maintains a good standard of scholarship, which pursues such methods as develop self-activity and the power of consecutive thought, which inspires its students with moral earnestness and a high and dominating purpose in life, does not all, it is true, but the best, that can be done. In the light of these facts, if such they be, it is not the purpose of this report to recommend at present very large additions to courses of study as now organized.

#### STUDENTS.

The following summaries present interesting facts as to the number of students attending the University during the past ten years:

	1891	1892	1893	1894	1895	1895-6	1896-7	1897-8	1898-9	1899-00
Collegiate .....	115	168	184	211	216	193	216	220	225	291
Preparatory .....	458	317	350	403	354	362	340	258	255	364
Totals .....	573	485	534	614	570	555	556	478	480	655

It will be observed that the enrollment for the present year (1899-00) exceeds the largest of any preceding year by 41. The enrollment for the year 1890 (631) includes all the matriculates for a part of two years, and therefore cannot be compared with that of any one year.

It is specially gratifying to note the increase in the number of students in collegiate courses, as it indicates a trend toward the true and proper work of an institu-

tion designed for higher education. It is true, however, that the majority of students in advanced classes come from the Preparatory Department of the University, yet the number of those prepared in other schools for admission to these classes is steadily increasing. The present two years exceed any preceding period in the number of counties of the State represented, which are respectively sixty and sixty-four, as against fifty-seven and fifty-five the preceding two years. Again, the present year exceeds any preceding year in the number of students from the State at large by not less than one hundred.

These facts can reasonably be interpreted as indicating an extension of the influence and prestige of the University in the State and a wider recognition of its scope and functions as a State University and not a local school.

While it cannot be claimed that no breaches of good order or propriety have occurred on the part of students, yet their general conduct, their observance of established regulations, their prompt obedience to rightful authority and their devotion to study are worthy of commendation. Severe discipline has seemed necessary in but few cases.

#### DEPARTMENTS OF INSTRUCTION.

All departments of instruction have been in active operation during the current two years. It is deemed proper to mention only the following changes and additions:

The Department of History and Pedagogy, subjects between which there is no special affinity, was separated and two departments established; one of History alone, and one of Philosophy and Pedagogy. The number of students that have attended these departments vindicate the wisdom of the board's action in the matter. The teaching force in the Department of English and Modern Languages has been strengthened by the election of an accomplished scholar as adjunct professor in that department.

In compliance with the order of the board, the Department of Elocution was reorganized and that of Physical Culture superadded. The teacher placed in charge has been quite active and earnest in the prosecu-

tion of her work, and her classes have been quite large, especially as attendance has been optional.

At the opening of the present session it was found that the sections into which some of the classes in the Preparatory Department were divided were so large as to be unwieldy. Hence it became necessary to employ an additional teacher. Whether the same necessity will arise next session will depend on the number entering this department.

#### MILITARY DEPARTMENT.

Lieut. Col. Boyle, acting Inspector General of the United States Army for the Department of Missouri and Colorado, visited the University and inspected the cadet battalion on the 19th of May. He expressed himself as highly pleased with the soldierly appearance and movements of the cadets, the excellent condition of their arms, accoutrements, etc.

His declaration that the exhibit was the best he had thus far seen was a high and merited compliment to the efficiency of the commandant, Mr. J. L. Horner. It is understood that Mr. Horner does not desire to be re-appointed. The position he has filled, therefore, becomes vacant.

#### ACCREDITED SCHOOLS.

During the present two years six schools have been dropped from the accredited list and seven have been added. The number now on the list is twenty-eight. There are still others which have indicated a desire to become accredited. This is a work that should be continued from year to year, as it affords the best means of bringing the University and the high schools of the State into friendly and mutually helpful relation to each other.

#### THE LIBRARY.

Very considerable additions have been made during the current two years, both to the general library and to special department libraries. But the funds available for the purchase of books are altogether inadequate, and the library is far short of the needs of the University. A large desk for reference books and also one for newspapers were made in the shops during last vacation and have been in use during the year. The library room, out-

side of the railing, is used as a study hall for collegiate students. Often as many as eighty or one hundred are assembled there. Hence the duty—and it is one requiring firmness and discretion—devolves on the librarian of enforcing quiet and order in the room, as well as the duty of caring for the books.

To facilitate the keeping of a correct account of all books belonging to the University, I recommend the adoption of the following resolution:

*Resolved*, That all books purchased for the University, regardless of the fund from which the purchase was made, are the property of the University Library.

That books purchased and paid for from special department funds may be withdrawn from the library by the head of the department and kept continuously in the possession of the said department.

That the head of the department withdrawing books from the library shall receipt to the librarian for the same, and report to the librarian the books in his possession on the first day of June of each year.

That each department now holding books belonging to the University report the same to the librarian at the beginning of the next term of college.

#### THE WILLIAM JENNINGS BRYAN FUND.

The Hon. W. J. Bryan, of Nebraska, delivered a lecture in the University last winter and generously donated the proceeds thereof, amounting to \$250, to the University. A condition of the donation was that this fund be safely invested and that the annual interest thereof be expended in the form of a prize to be awarded for the best essay on some problem in government. The investment of this fund awaits the order of the board.

#### BUILDINGS, IMPROVEMENTS, REPAIRS.

The following is a brief statement of the chief improvements and repairs made:

1. A brick addition of 30 by 50 feet to the Science Hall (Chemical Laboratory).
2. A cottage residence for foreman of the farm.
3. An office for Vice-Director and Pomologist of the Experiment Station.



4. Building attached to the old dormitory removed, the latter repaired, and laundry and wood-house built out of old material.

5. The Electrical Laboratory newly fitted up—plastered, ceiled, windows cased, etc.

6. Three rooms in southeast end of basement newly fitted up for the Department of Civil Engineering.

7. Central basement of main building floored.

8. North and south walls of boiler room taken down and rebuilt so as to enlarge the floor space of the room 8 by 30 feet, and the building newly roofed.

9. Suite of parlors in Buchanan Hall handsomely refitted and furnished.

10. Flues in Buchanan Hall rebuilt and roof repaired and painted.

11. Buildings and appliances used in veterinary department of the Station removed to a site remote from public highways.

12. About 500 rods of woven wire fence built, and other extensive improvements and repairs made on the farm and farm houses.

13. Woven wire fence built on north side of campus. Section of stone wall built on southeast corner of campus.

14. Athletic grounds surveyed and partly enclosed.

Many other minor repairs have been made. A large amount of the work above outlined was done by students.

#### THE UNIVERSITY DORMITORY.

The University dormitory has accommodated an unusually large number of students during the past two years. Its management has been in the main satisfactory, and the cost of board there less than in private families. A new mess hall with modern conveniences is much needed.

#### EQUIPMENTS.

Important additions have been made to the equipments, especially in the Scientific and Technical departments, and a new outfit has been provided for the physical culture room. Considerable expense was also incurred in providing a number of additional radiators for heating the buildings.

#### DEPARTMENT REPORTS.

The reports of the heads of departments, including that of the Director of the Station and the secretary and treasurer of the board, are herewith submitted. These reports are, most of them, accompanied by a statement of expenditures and lists of property with estimated values.

I beg leave to ask the careful attention of the board to the statement of facts and recommendations contained in these reports, as it is obviously unnecessary to present even an epitome of them in this general report.

#### NEEDS AND RECOMMENDATIONS.

As to the needs of the University I have only a brief general statement to make, and it is this: The continued growth and expansion of the University will necessitate additional buildings, equipments, and departments of instruction.

The organization and maintenance of State universities seems to be the settled policy of the country. But they cannot meet in any large measure the diversified demands of modern education without an adequate support.

1. That the board, either in committee of the whole or by special committee, determine the amount of the several appropriations which the Legislature will be requested to make.

2. That a committee be appointed to supervise the publication of the biennial report.

3. That a committee be appointed to secure, if possible, the detail of an army officer who is a graduate of the Military Academy at West Point and is otherwise a suitable man to take charge of the military department.

4. Provision for renewing insurance on buildings.

5. Construing the resolution adopted by the board regarding membership in the fraternities. The question at issue is when does a Freshman who passes his examination become a Sophomore?

6. The propriety of placing on record as a part of the proceedings of this meeting of the board a copy of

the Act of Congress known as the Homestead Bill, H. R. 996.

Respectfully submitted,

JOHN L. BUCHANAN,

President of the University of Arkansas.

## REPORT OF SECRETARY BOARD OF TRUSTEES.

Tabulated financial report of the Secretary of the Board of Trustees, from June 1, 1898, to June 1, 1900, showing the amount received and paid out and balance remaining of each fund belonging to the University, the Branch Normal College and the Agricultural Experiment Station.

### UNIVERSITY.

	Receipts	Expenditures	Balance
Agriculture.....	\$ 2,584 36	\$ 2,579 46	\$ 4 90
Ancient Languages.....	100 00	3 00	97 00
Art.....	4,400 00	3,025 00	1,375 00
Biology.....	1,524 74	1,164 98	359 76
Campus.....	898 49	370 57	527 92
Chemistry and Physics.....	2,420 35	2,105 32	315 03
Chemical Laboratory Extension.....	2,000 00	2,000 00	
Civil Engineering.....	1,873 70	1,256 39	617 31
Contingent and Tuition.....	6,725 43	5,435 39	1,290 04
Dormitory Matron.....	360 00	165 00	195 00
Economics and Sociology.....	150 00	105 62	44 38
Electrical Engineering.....	3,081 29	1,943 06	1,138 23
English and Modern Languages.....	145 68	69 93	75 70
Fuel.....	3,754 38	2,059 16	1,695 22
Geology and Museum.....	1,655 67	1,460 11	195 56
History.....	100 00	46 88	53 12
Horticulture.....	2,752 80	1,708 85	1,043 95
Hydrant and Sewer.....	15 91		15 91
Infirmary.....	442 87	262 87	180 00
Insurance.....	21 66	21 66	
Interest on County and City Bonds.....	26,000 00	14,062 99	11,937 01
Janitor.....	1,807 41	1,247 34	560 07
Library.....	1,073 04	560 96	512 08
Magazine and Annual.....	200 00	91 45	108 55
Mathematics.....	280 94	265 38	12 56
Mechanical Engineering.....	4,121 23	2,454 58	1,666 65
Military.....	895 44	494 54	400 90
Morrill.....	38,031 17	38,031 17	
Philisophy and Pedagogy.....	100 00	32 30	67 70
Plumbing and Water Filters.....	400 00	281 14	118 86
Postage.....	884 26	283 25	601 01
Repair.....	2,502 27	157 20	2,345 07
Salary.....	31,047 62	31,047 62	
Secretary to President.....	935 50	448 25	487 25
Stationery and Printing.....	2,103 06	1,186 49	916 57
Student Labor.....	6,140 91	4,462 36	1,678 55
Trustee.....	1,631 50	1,358 37	273 13
Water.....	1,861 71	1,072 98	788 73
Total.....	\$155,023 34	\$123,924 62	\$31,698 72



### BRANCH NORMAL COLLEGE.

	Receipts	Expenditures	Balance
Building .....	\$ 600 00	\$ 9 00	\$ 591 00
Campus .....	200 00	189 60	10 40
Contingent and Incidental .....	1,425 42	1,421 95	3 47
Fuel .....	600 59	598 81	1 78
Heating Apparatus .....	456 65	456 65	
Insurance .....	70 90	70 90	
Janitor .....	337 00	162 00	175 00
Library .....	757 20	118 95	638 25
Morrill .....	31,579 72	18,196 86	13,382 86
Repair .....	407 95	401 88	6 07
Salary .....	13,730 00	4,700 00	9,030 00
Total .....	\$50,165 43	\$26,326 60	\$23,838 83

### EXPERIMENT STATION.

	Receipts	Expenditures	Balance
Congressional Appropriation .....	\$31,337 56	\$29,824 70	\$1,512 86
Contingent .....	1,607 98	931 39	676 59
Total .....	\$32,945 54	\$30,756 09	\$2,189 45

Respectfully submitted,

H. F. REAGAN,  
Secretary Board of Trustees

### FINANCE COMMITTEE'S REPORT.

As Finance Committee of the Board of Trustees we submit the following:

We find the report of the Secretary as presented to be correct. We have carefully examined the records of the Secretary and Treasurer of the University, the Agricultural Experiment Station and the Branch Normal College, embracing a period of two years, ending June 1, 1900, and find that the same have been neatly and correctly kept. The records of these officers agree in all vouchers and checks and show a balance of \$31,698.72 belonging to the University, of which sum \$21,198.72

in the University treasury and \$10,500 is in the State Treasury.

We find the Branch Normal College has a balance of \$23,838.83, of which sum \$21,038.83 is in the treasury of that institution and \$2,800 is in the State Treasury.

We have also carefully examined and footed up all of these several funds, and the total amount of cash belonging to the University, the Experiment Station and the Branch Normal College, now in these three treasuries, is \$57,727.

Respectfully submitted,

V. Y. COOK.

T. A. FUTRALL.

T. M. SEWALL.

# DEPARTMENT REPORTS.

## MATHEMATICS.

*Dr. John L. Buchanan, President of the University of Arkansas.*

SIR—I have the honor to submit the following report of the Department of Mathematics and Astronomy for the year ending June 30, 1900.

Without speaking in detail of each class, I desire to state that all the required courses of study as given in our catalogue have been completed, and that our students have, in general, been interested in their work and have made very commendable progress.

In all the classes, one hundred and ninety-eight students have been enrolled, the largest enrollment ever known in this department. The requirements for admission to the Freshman class are the equivalent of those of other universities of the South and West, and it is the aim of the instructors to maintain a high standard of scholarship.

The scheme given below shows the division of the classes, the number enrolled in each class, the subjects taught, etc.

Class	Subject	Number Enrolled	No. hours per week	Instructor
Freshman..	Geometry and Algebra, 1st section .....	32	3	Prof. Droke
Freshman..	Trigonometry, 1st Section .....	18	2	"
Sophomore	Trigonometry and Conic Sections .....	7	3	"
Sophomore	Astronomy .....	8	3	"
Junior.....	Calculus .....	8	3	"
Senior.....	Solid Geometry and Differential Equations .....	2	3	"

Class	Subject	Number Enrolled	No. hours per week	Associate
Freshman..	Geometry and Algebra, 2nd, 3rd and 4th sections .....	86	3	Prof. Dunn
Freshman..	Trigonometry, 2nd section.....	19	2	"
Sophomore	Trigonometry and Analytical Geometry .....	18	5	"

Up to this time very little has been done in Astronomy, but it is my earnest desire to make an advance movement in this subject. Nothing whatever has been done in Practical Astronomy, and for good reason—there is not one dollar's worth of apparatus absolutely necessary for successful work. In this particular, the University of Arkansas falls far behind almost all other State Universities. Hence, I earnestly beg you to aid in securing an appropriation for the purchase of the following items, all of which are necessary:

1. One Sextant with Artificial Horizon, \$125.
2. One Chronometer, \$200.
3. Barometer and Thermometer, \$50.
4. Universal Instrument (Altazimuth), \$500.
5. Refracting Telescope, \$1,500.
6. Celestial Globe, \$50.
7. Small Observatory, \$800.
8. Library, \$250. Total, \$3,475.

I am, with great respect, yours very truly,

GEORGE W. DROKE,  
Professor of Mathematics and Astronomy.

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## ENGLISH AND MODERN LANGUAGES.

*Dr. John L. Buchanan, President.*

DEAR SIR—The present year has been one of marked progress and improvement in the Department of English and Modern Languages. The department was very materially strengthened by the election of Dr. W. A. Read to an adjunct professorship at the beginning of the present scholastic year, and I am pleased to report that his work has proved in the highest degree satisfactory. If the Board of Trustees should see fit to elevate him either in rank or in salary, it would, I am sure, be nothing more than a suitable recognition of the success he has achieved.

Miss Clara Earle, instructor, requests a leave of absence for one year. She has the laudable ambition to

advance still farther along the lines of her chosen profession at the French universities, and compliance with this request would be a compliment which she has richly merited. Among the applications for the position she will leave vacant I beg leave to call your attention to that of Miss Julia Vaultx, an alumna of the University of Arkansas. Miss Vaultx has had extensive training in Modern Languages, and her election would prove entirely satisfactory to the head of the department.

In my annual report to the Board of Trustees last June, I suggested a division of the department into English and Modern Languages, respectively, and my views as to the expediency of such a separation have not changed. I trust that such steps will be taken to induce the General Assembly to make provision for the change suggested.

In all the classes of the department, with the exception of French 1, the increase in numbers has been very great; that in the German classes being especially marked. The success of my method of instruction by conversation in the French and German classes has been strikingly demonstrated by greatly increased interest and attendance in these classes. The decrease in numbers in French 1 has been due entirely to a readjustment of the collegiate courses, in which the discrimination against French was unintentional. Unless the Board of Trustees should undertake to repair this injury, it is a question of only a short time when the study of French will occupy a position of comparative unimportance in the University curriculum. I suggest, therefore, that in the Freshman year of the B. Ph. course three hours of French or German be required, and that the requirement of six hours in Biology, Geology, Chemistry and Physics be reduced to three hours a week.

The department is very seriously, if not fatally, hampered by lack of sufficient means in providing even the most necessary books of reference. The customary appropriation of \$100 is hardly adequate to replace the books lost and worn out in the two years which the appropriation is designed to cover. If the appropriations for providing books for the various departments be regulated according to actual necessity, the Department of English and Modern Languages should certainly be accorded greater recognition in this respect than it has



heretofore received. The absence of a complete set of Tennyson's works, as well as our inability to secure other standard books, testify very forcibly to the exigencies of the department. I would, therefore, urge that the appropriation for the next two years be certainly no less than \$500.

I desire to express my gratitude to my assistants in the department, Dr. W. A. Read, Misses Davies and Earle, without whose devoted interest and kindly co-operation with me in the work of the department, I should now be unable to report a year of such marked improvement.

Very respectfully,

ERNEST T. BYNUM.

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## ANCIENT LANGUAGES.

*Dr. John L. Buchanan, President.*

SIR—I have the honor to submit herewith the report of the department of Ancient Languages for the two years ending June 30, 1900.

There were enrolled in this department in 1898-99, in Latin, 75; in Greek, 19; total, 94. In the following year, the numbers enrolled were, respectively, in Latin, 101; in Greek, 40; total, 141; showing an unusual and very gratifying increase for the second year. The gain was relatively much larger in Greek than in Latin, the percentage of increase in the former subject being more than 100. During the past year Prof. W. A. Montgomery, Ph. D., of the Johns Hopkins University, had charge of the classes usually taught by the writer, who was spending a year's leave of absence in Europe. Dr. Montgomery's work was eminently satisfactory.

Since my last report a number of valuable works have been added to the library of the department, but there is still room for much improvement in this direction. I recommend that the next legislature be asked

for an appropriation of \$200 for the maintenance and improvement of the department.

Respectfully submitted,

JOHN C. FUTRALL,  
Professor of Ancient Languages.

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## CHEMISTRY AND PHYSICS.

*Dr. J. L. Buchanan, President University of Arkansas.*

DEAR SIR—I have the honor to report that the Department of Chemistry and Physics has closed a successful session. The attendance of students was by far the largest in the history of the department. It was as follows:

COURSE	NUMBER STUDENTS
General Chemistry .....	98
General Physics .....	52
Qualitative Analysis .....	6
Quantitative Analysis .....	1
Water Analysis .....	2
Assaying .....	6
Organic Chemistry .....	3
Electro-Chemistry .....	4
Chemical Philosophy .....	2
Preparatory Chemistry .....	25
Total .....	199

Our laboratory facilities have been taxed to the utmost, every working desk in the new addition was occupied. Our present stock of apparatus is not equal to the demand.

The old part of our building requires new gutters. If this is not attended to serious damage to the foundation will result; the fund of the department cannot pay for this work; we need every cent for apparatus and supplies.



I respectfully request that the laboratory janitor be paid entirely from the regular fund for that purpose, and, if exhausted, from the contingent fund.

I most respectfully suggest that a recommendation be made to the State Legislature for the establishment of a Textile Department in connection with the University. Georgia and Massachusetts, the two most successful cotton manufacturing States, have two of the three textile schools in America. I believe that a considerable amount of the necessary machinery could be obtained at nominal figures and a beginning easily made. You already have instructors competent to do the work in dyeing, chemistry and designing, and a competent textile man could be obtained. I am convinced that work of the character indicated would indubitably assist in the material development of the State.

I most respectfully ask for an appropriation of twenty-five hundred dollars from the next legislature, the increase in amount asked over last appropriation being due to the largely increased number of students.

I append a summary from the books of this department. The accounts in detail accompany the report as a separate exhibit. I am,

Yours very respectfully,

A. E. MENKE,

Professor Chemistry and Physics.

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## PHILOSOPHY AND PEDAGOGY.

*Dr. John L. Buchanan, President.*

DEAR SIR—I have the honor to submit the following report of the Department of Philosophy and Pedagogy for the session of 1899-1900.

### PHILOSOPHY.

Enrolled in Philosophy 1.....	13
Enrolled in Philosophy 2.....	4

Enrolled in Philosophy 3.....	13
Enrolled in Philosophy 4.....	4
	<hr/>
Total .....	34

Nine of the above enrollment are Seniors, the remainder are Juniors in special courses.

The work has been exceptional in each study. The introduction of the study of the History of Philosophy has produced an intensified interest in this subject, and I would recommend that the course be enlarged so as to require the usual two or three years' work necessary to a comprehensive School of Philosophy.

#### PEDAGOGY.

Enrolled in Pedagogy 1.....	26
Enrolled in Pedagogy 2.....	18
Enrolled in Pedagogy 3.....	4
Enrolled in Pedagogy 4.....	3
	<hr/>
Total .....	51

The interest in the Normal Department has been steady and persistent, encouraged, doubtless, by the growing demand in our schools for trained teachers. It is gratifying to note that the attention of school directors is being turned to the University for this material. The demand is now greater than the supply. The record now shows that forty-seven of the fifty-one now enrolled in the department will teach during the summer and return to the University at the fall session to complete the course in Pedagogy. Four have been elected to positions of importance in high schools, and will regularly enter upon their professional work in the coming fall.

This being the second year of the work in this special department, it is encouraging to realize that so large a number of the students find places awaiting them before their course is finished.

The prospect for an increased attendance next session is already very flattering.

As the department grows there is a necessity for an enlarged equipment in order to measure with the establishments of this nature in other schools and States. I would therefore recommend that an appropriation of \$150 be made to provide a thorough normal equipment.

The department is without the requisite and needed maps, charts, devices and equipments that are essential in training teachers in the use of such educational means, and without a knowledge of which no teacher now is equal to the occasion in the school rooms in the State.

All of which is respectfully submitted.

JUNIUS JORDAN,  
Professor of Philosophy and Pedagogy.

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## ECONOMICS AND SOCIOLOGY.

*John L. Buchanan, A. M., LL. D., President of the University of Arkansas.*

SIR—I have the honor to submit the report of the Department of Economics and Sociology for the two years ending June, 1900.

During the past two years the following courses of instruction have been offered—Principles of Economics, Industrial History of America and Europe, Money and Banking, History of Economic Thought, Tariff History, Public Finance, Transportation, Sociology and Social Problems. All of these courses have been well attended. Hitherto the courses in this department have been taken as elective studies. The new curriculum of study makes Economics a necessary alternate to History in all courses. In addition to the courses already referred to, I have had charge of the instruction work in Civics in the Preparatory Department.

The aim held in view has been to make the courses offered thoroughly practical. Consequently the studies have been so arranged as to bear directly on the problems of citizenship presented by modern industrial life. The students have been encouraged to make use of such government documents as our library possesses, with a view not only to training them in independent investigation, but also to obtaining, at first hand, information bearing on current problems. Beginning with September, 1900, two new courses—one in Commerce and one in

Labor Legislation—will be offered. Both of these are eminently practical. In the course in Commerce students will be required to make use of the United States Consular Reports. In the course in Labor Legislation a comparative study of the economic principles underlying labor legislation in the leading industrial countries will be made.

Other Universities find that a policy of University Extension is helpful in that it keeps the public in touch with the educational activities of University life. I am convinced that a vigorous policy of University Extension work is in the interest of our University's welfare. During the past two years a few opportunities for such work have presented themselves to me. I have lectured before the University Extension Club of Fort Smith on "Regulation of Railroads by Commissions in the United States." I have also had an opportunity to present a paper before the Northwest Arkansas Bankers' Association on the "History of Banking," as well as a paper before the State Bankers' Association on "Bank Note Circulation in the United States." These papers have been published by the respective associations. Other papers of mine, on economic topics, which have been published during the period covered by this report are "Canadian Railways and the Bonding Question," in the *Journal of Political Economy*; "The Study of Economics," in the *Ozark*; "The Teaching of Civics," in the *Arkansas School Journal*; and "Federal Regulation of Railways in the United States," in the *British Economic Journal of London, England*.

The Bryan Prize, established by the liberality of Hon. W. J. Bryan, will be open for competition by the students of the Department of Economics and Sociology during the year 1900-01. The topic chosen for the essay is "The National Bank Act; its History and Operation."

Additions have been made, out of the funds furnished for the purpose, to the supply of books available for the use of the department. But such is the plentitude of literature that is issued on economic topics that barely the beginning of a working library has been obtained. A transportation map of the United States has also been purchased. It will be necessary, if the work is to be properly developed, to obtain other maps and charts. I would therefore respectfully recommend that

application be made for an appropriation of \$150.00, to be used in supplying the department with books, periodicals, maps, charts and other facilities for work.

Respectfully submitted,

SIMON J. McLEAN,  
Professor of Economics and Sociology.

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## GEOLOGY AND MUSEUM.

*Dr. J. L. Buchanan, President of the University of Arkansas.*

DEAR SIR—I have the honor to submit the following report of the Department of Geology and the Museum for the year 1899-'00.

During the year there have been five courses given in this department, all of which extended through the entire year. In one of these courses, viz., Topographic Geology, I have had the efficient assistance of Mr. Carl Leon Saddler, a student in the Department of Civil Engineering. I was led to seek this needed assistance partly on account of the good scholastic standing of Mr. Saddler, but chiefly because of his experience during last summer's vacation in one of the Topographic Corps of the United States Geological Survey.

This leads me to say that a permanent assistant is necessary in the department in order to make a needed expansion of the work and give to it the efficiency it should have. My time is so nearly all consumed in teaching and looking after general matters connected with the department that I am able to give but little attention to improving the Museum. The latter alone could well consume most of the time of an energetic man.

One point at which the work now being done should be expanded is in Physical Geography, especially that phase of it known as Meteorology. This increase in the scope of the work becomes desirable because of the growing recognition of the dependence of our comfort and of



agricultural and commercial pursuits upon a knowledge of the laws governing atmospheric phenomena. The correct way of presenting this subject is by the laboratory method, which would require more time than could be devoted to it without an assistant.

The fact that the Department of Geology is so closely connected with the material interests of the State, together with the fact that there is at present no State Geologist, brings to it, in the form of letters and interviews, a great many inquiries concerning the general geology of the State and its mineral resources. These inquiries come from both within and without the State, and always receive prompt attention.

The general growth of the University, and more especially of the number of students in the departments of Biology and Geology, have brought an urgent need for a Natural Science building. This building should be commodious enough to meet the present and future needs of Geology, Mineralogy, the Museum, Botany, Zoology, and Physiology. It should be a substantial building and one that would be a credit to the State. I would most urgently recommend that \$20,000 be requested of the next General Assembly for the erection of such a building.

A low estimate of the amount needed to meet the current expenses of this department during the ensuing two years is as follows:

For the maintenance and additional equip- ment of the Department of Geology . . . . .	\$ 700 00
For the Museum . . . . .	1,000 00

Respectfully submitted,

A. H. PURDUE,  
Professor of Geology.



## BIOLOGY.

*Dr. J. L. Buchanan, President of the University of Arkansas.*

DEAR SIR—I have the honor to submit the following report of the Department of Biology for the scholastic year 1899-1900.

The total number of students enrolled in the department is 70, while the laboratory has accommodation for only forty.

It is very evident without any comment that a large and better lighted laboratory is needed; still I wish to mention one or two special reasons why it is wanted.

Microscopic and anatomical study of plants and animals is one of the most important features in laboratory instruction, and requires the best of light, which the present laboratory does not afford. Again, in order to do good thorough work, a laboratory should be large enough to prevent crowding the students, and also large enough to assign to each a desk so that he could have his own apparatus and be held responsible for loss or breakage of same.

Under the present arrangement all students use the apparatus in common, and no charge is made for loss or breakage, which is considerable. The custom of furnishing free apparatus cultivates the habit of carelessness, and it is to a certain extent a hindrance to successful work. I most respectfully ask that hereafter all students be required to pay for what they lose or break. Careful habits will be engendered in the students and the expense of the department much curtailed.

I have found it expedient to make some alterations in the courses heretofore given, and to add two new courses as announced in the catalogue. I offered the present session, as an elective, a new course in Anatomy and Physiology, preparatory to the study of medicine. That the course was appreciated, is shown by the fact that there were more applicants for it than the room would accommodate.

The University should make certain requirements in Science for admission to the Freshman class, but from the fact that there is comparatively little science taught

in the public schools in the State, such a step at present would be inexpedient.

It behooves the University of Arkansas to lead the way if the standard of science teaching in the State is to be raised. In order to make a beginning in this direction, and to stimulate and popularize the study of natural science in the public schools of the State, I have offered next year a course in Nature Study and Systematic Science Teaching for the benefit of teachers.

The work of the students has been good, and the prospects for better work in the future is encouraging; but if the further development of the department is to be made, a larger and better lighted laboratory is very necessary.

I most respectfully and earnestly urge that better laboratory facilities be provided for the department.

I suggest that the legislature be asked to appropriate \$20,000.00 for a Science Building for Geology and Biology.

To meet the necessary current expenses of this department for the ensuing two years not less than \$1,000.00 will be required.

Respectfully submitted,

FRANK W. PICKEL,  
Professor of Biology.

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## HISTORY.

*President J. L. Buchanan, University of Arkansas.*

DEAR SIR—I have the honor to submit herewith a report of the Department of History since September, 1899, when my term of office began.

During the past year courses have been conducted in the following subjects for the number of hours per week and the period indicated: Greek and Roman History, two hours, session; Mediæval and Modern History, three hours, session; American Political and Constitutional History, two hours, session; American Civil Gov-

ernment and Constitutional Law, one hour, session ; English Political History, one hour, session ; The Renaissance and Reformation, two hours, first term ; The French Revolution and Napoleonic Era, two hours, second term ; Comparative Study of American and European Government, two hours, first term ; English Constitutional History, two hours, second term ; International Law, one hour, session.

These courses have been pursued respectively by 70, 12, 26, 16, 16, 8, 11, 9, 10, and 7 students, making a total enrollment of 185 in the separate courses of the department. The class in Greek and Roman History was so large as to necessitate its division into two sections, thus largely increasing the work of that course. I have also, in order to relieve the overcrowded condition of the classes in the Preparatory Department, had charge during the year of one section of the Sub-Freshman class in General History, reciting three times weekly and enrolling 26 students.

Considerable interest in the subjects taught has, I think, been aroused on the part of the students, and the work done by them, especially in the upper classes, has upon the whole been satisfactory. The conditions are such that it may reasonably be expected that greater advancement and improvement will be made in the future. The aim has been to have the facts of history looked upon not, as is often the case, as so many dry bones, fit only to be studied by the antiquary, but to have observed in them the moral, social and political forces which have operated in the development of national life, and to have it seen that the lessons thus learned have a practical application to the solution of the social problems of our own day. Work of the department has been so arranged as to furnish two broad courses, one in General History and one in American and English History, while several special courses are offered which emphasize significant epochs in the historical field, and also go into a careful study of the important governments of modern times. The intention has thus been to give a well-rounded training while at the same time imparting some valuable special knowledge.

The equipment of the department has been considerably improved during the past year by the purchase of a set of Maccoun's Historical Charts, but it is not yet

what it should be for the accomplishment of the best work, particularly in the lines of recent special wall maps and late works of reference. In order that some of the most important of these may be secured, I would respectfully recommend that an appropriation of \$100.00, to be set apart for the use of the department, be asked for at the approaching session of the State Legislature.

Respectfully submitted,

A. F. LEWIS,  
Professor of History.

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## MECHANICAL ARTS AND ENGINEERING.

*President J. L. Buchanan, University of Arkansas.*

DEAR SIR—I have the honor to submit the following report of the Department of Mechanical Arts and Engineering, for the year 1899 and 1900.

The department has shared in the general prosperity of the University, registering eleven students in the collegiate courses, as against seven for 1898-'99.

The shops have been unusually full, owing to the increased attendance in the Preparatory Department, and more required work from the collegiate students.

During the past year there were 140 students registered in the various shop departments, as follows:

Wood Shop .....	89
Foundry .....	16
Forge Shop .....	21
Machine Shop .....	14
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Total .....	140

The number registering for Free-hand drawing, sixty-three, gives promise of the continuous growth of the Engineering departments.

Each of the shop departments have added something towards the permanent improvement of the University at large, such as furniture for the library, ap-



paratus for the young ladies' gynasium, and general repairs.

The large number of students receiving instruction, the limited shop room, and conflicts with other University work, has required the instructors to offer the same work at different times, thus requiring practically continuous service on their part.

While the number of applications for enrollment in the short course in Mechanical Engineering has proven the necessity for its existence, the preparation offered was very deficient, only four being sufficiently advanced to take the work as offered. The others, while doing the shop work required, are registered in the Preparatory Department, making up their deficiencies.

In the collegiate department, the regular courses as laid down in the catalogue were given. The attendance was good, the total number registered for work in this department being sixty-two.

The work in the Mechanical Laboratory courses was greatly hindered by the lack of either suitable or permanent rooms for that class of work, and I would recommend that an appropriation be asked for of \$2,000.00, to build an addition to the present shop building, to be used for the laboratory, drawing and class room work of the Mechanical Engineering Department.

The appropriation, if granted, will add to the efficiency of the department as well as relieve the crowded condition of the main building, by rendering the rooms now occupied as class and drawing rooms available for other uses.

I would recommend that the department be allowed to take its students from the University, for a week during the Spring term, for the purpose of visiting and making tests on power plants, and would suggest that the week devoted to the C. E. surveying trip could be devoted to this purpose, as the class work in the department is always more or less affected by the withdrawal of the C. E. students.

For the maintenance of the Department of Mechanic Arts, to be used for the purchase of exercise material and tools, an appropriation of not less than one thousand dollars (\$1,000.00) will be necessary.

To properly carry on the work as laid out for the course in Mechanical Engineering, an appropriation of



not less than three thousand dollars (\$3,000.00) will be needed.

The Steam Heating Department was badly handicapped by the poor quality of coal that was available, and a large addition to the radiating surface supplied, but a comparatively mild winter, and continuous firing during the cold snaps, enabled the department to keep the buildings warm. I would call attention to the fact that the demands on the fuel fund, for power purposes, and for heat, are increasing, and suggest that the appropriation be increased. The Hartford Steam Boiler Insurance Company inspected the steam boilers and report them all in good condition. They also advise a change in the setting of the boilers, believing that it would increase their capacity and economy, and I heartily concur with them.

I would also suggest that an appropriation be asked for, for the purpose of maintaining and adding to the steam-heating system. At present some of the system is on the point of needing repairs, and a small fund for that purpose would relieve the contingent fund of that burden.

Respectfully submitted,

C. E. HOUGHTON, •

Prof. Mechanical Engineering and Supt. Mechanic Arts.

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## CIVIL ENGINEERING.

*Dr. John L. Buchanan, President University of Arkansas.*

DEAR SIR—I have the honor herewith to submit the report of the Department of Civil Engineering for the year 1899-1900.

It gives me pleasure to report that in many respects the past year has been a very successful one. The number of students in the department is now much larger than in any previous year. From the time of making this separate department, three years ago, and the consequent addition of a small equipment, there has been a

rapid growth in the number of students pursuing this course, as shown by the following summary taken from the catalogue: The number of students enrolled in the course of Civil Engineering in the Collegiate Department in 1897-'98 was 8; in 1898-'99 was 14; and in 1899-1900 was 30; showing that the enrollment has practically doubled each year. The total number receiving instruction during the past year is 45.

The work as laid down for the course in the catalogue has been carried out in good faith. But owing to the increased number of students it is no longer desirable to continue the practice of giving instruction to different classes in drawing or to different classes in field work at the same time. With very small classes the work can be carried on in this way without any detriment to the students, but with the present number it can no longer be done satisfactorily. Beginners in surveying and drawing need constant supervision and instruction. To carry out the course as laid down, giving instruction to each class at separate periods, will necessitate twelve hours for field work and fourteen hours for work in drawing. In addition to this there is the regular recitation work requiring fourteen hours, making the total number of hours required for the one instructor of this department forty hours per week. The average number of hours per instructor for the University will be found to be about twenty. In fact, with the present schedule of recitations for the University of six recitation periods for three days and eight periods for two days per week would leave but thirty-four hours as against forty hours required for my work. Without considering the question of the character of the work which any one could be expected to do under such conditions, it should be evident that one teacher cannot do the work satisfactorily. Hence, I would beg of you to recommend to the Board of Trustees some plan to provide for an additional instructor for this department.

It is very gratifying to be able to report a constantly growing demand for our students in Civil Engineering. This is not confined to graduates, but undergraduates as well. During the past two years a number of students not further advanced than the Sophomore class have received employment on engineering work during the Summer vacation, receiving salaries

ranging from \$50.00 to \$75.00 per month. As a rule these students have done good work and received promotion. This success would indicate that the course is accomplishing, in a measure at least, the purpose for which it was laid out.

The appropriation made to this department at the last session of the Legislature has furnished the means for greatly improving the equipment for giving instruction in practical work. Owing to the great advance in prices, it was not possible to adhere strictly in making the expenditures to the purposes named in the original estimate; but in so far as practicable this was done. Owing to the increased number of students it will be necessary to duplicate some of the equipment. This is especially true in the Cement Laboratory and Surveying Equipment. Therefore, I would respectfully ask for your approval and recommendation that the following appropriation be asked to carry on the work for the next two years:

Engineering Laboratory .....	\$1,100 00
Cement Laboratory .....	500 00
Additional desks and apparatus for drawing room .....	100 00
Surveying Instruments .....	950 00
Expenses for Surveying Camp for two years.	100 00
Total .....	<hr/> \$2,750 00

#### PLUMBING AND WATER FILTERS.

While not directly connected with the work of this department of Civil Engineering, yet since most of the supervision of this work was entrusted to me, a few words of explanation and a few suggestions may be necessary. Owing to the unforeseen necessity of placing the Old Dormitory in a better sanitary condition, a large portion of this fund was used for this purpose. The work consisted in building about 250 feet of sewer and piping the building to provide for hot and cold water for the kitchen and laundry, and to dispose of the accompanying wastes. It will be necessary to provide better facilities for furnishing hot water in the bath house, as the present supply is not sufficient for the demands made upon it by the students residing at the dor-

mitories. This and other much needed sanitary improvements will require a small appropriation.

Respectfully submitted,

J. J. KNOCH,  
Professor of Civil Engineering.

## ELECTRICAL ENGINEERING.

*Dr. J. L. Buchanan, President of the University of Arkansas.*

DEAR SIR—I respectfully submit the following report of the Department of Electrical Engineering for the year ending June 21, 1900.

All the courses have been taught substantially as laid down in the catalogue. During the second term, however, I had, with your approval, the assistance of Mr. W. A. Treadway, a senior E. E. student, who had charge of the detail work of Sophomore and Junior laboratory classes. Mr. Treadway's work was well done, and I hope he may be retained permanently for this work.

The following table shows the classes taught and the enrollment:

Term.	Class.	Subject.	Hours per week.	Students.
Second .....	Sophomore..	Electrical Measurements .....	2	14
" .....	"	Management of Dynamos and Motors.. .....	2	4
First and second	Junior .....	Dynamo Electric Machinery .....	3	7
" " "	" .....	Electrical Laboratory .....	4	10
" " "	" .....	Technical Drawing .....	4	7
" " "	Senior .....	Alternate Current Theory .....	2	1
" " "	" .....	Telegraphy and Telephony .....	2	3
" " "	" .....	Electric Railways .....	2	2
" " "	" .....	Electrical Laboratory .....	4	1
" " "	" .....	Technical Drawing .....	4	1

During the year the following additions have been made to our laboratory apparatus: A Weston volt meter with milli ammeter scale; Weston D. C. A. C. watt meter; Standard photometer, with accessory light standard; Tachometer, and a large number of smaller pieces.



The gasoline engine which has been substituted for the Corliss in our laboratory, has given good service and effects a saving in the cost of fuel. The average expense of driving the laboratory machinery, including that for lighting the building and grounds, has been about \$3.00 per week for gasoline.

The standard photometer has furnished excellent opportunity for measurements in light, both from arc and incandescent lamps.

The laboratory is now well equipped for practical teaching in the following branches: Telegraphy, Telephony, Light and Power Distribution, by direct and alternate currents. There are other very important branches, such as Electric Railways, Mining and the electric handling of ores, which we have not as yet attempted, owing to lack of funds for the purchase of necessary appliances. It is hoped that the next appropriation will be sufficient to enable us to take up one or both of these subjects with practical machinery.

I will again respectfully call your attention to the question of the advisability of allowing the Junior and Senior E. E. students one week during the Spring term, in which to visit power and manufacturing plants. The same week in which the Civil Engineering students are absent on a surveying trip could very profitably be used in this way.

The growth of this department of the University has very much increased the teaching required. I have found it very necessary to have assistance during the past term. The amount of work done here usually occupies the time of two or more men in other universities, as a comparison of our catalogue with others will show.

I will therefore ask that an assistant be elected to take charge of the detail work of the lower classes in the laboratory and drawing, and to assist in any other work of the department in which he may be needed.

To carry on the work of this department for two years from June, 1901, will require an appropriation of not less than \$3,000.00.

Very respectfully,

W. N. GLADSON,  
Professor of Electrical Engineering.



## AGRICULTURE.

*Dr. J. L. Buchanan, President University of Arkansas.*

DEAR SIR—I have the honor to make the following report for the Agricultural Department of the University of Arkansas for the year beginning June, 1899, and ending June, 1900.

Upon taking charge of this department in the fall of 1897 I found everything in a very much run-down and out of repair condition, and but meagre funds at my command for current operations, and nothing for improvements and repairs. The fencing to the extent of more than a mile was inadequate to exclude public stock; the two large barns were in a leaky condition; the foreman's house was rotting down, and forty acres of land now in cultivation was overgrown with brush, corrugated with gullies, and covered with loose surface stone. The roads were barely passable and the accumulation of trash and rubbish made the greater portion of the University grounds anything but sightly. The area in cultivation under control of this department was less than ten acres, and there was not enough stock food on hand for the maintenance of the animals kept.

The efforts of the department have been to bring the grounds up to a presentable condition and to provide the necessary appliances for the proper and profitable conduct of the department. While funds are now badly needed for the perfection of the plans for improvement and development, the work done during the past two years has brought the department up to a condition that will easily facilitate the performance of better work and the advancement of better results than have been attained in the past. If during the coming two years the department is favored with the facilities requested, it is confidently asserted that it will be enabled to compare more favorably with similar departments of other institutions in which agriculture is a feature of instruction and of scientific investigation.

The grounds and equipment have been in a marked state of unpreparedness for the conduct of the legitimate operations of an agricultural department of an A.

& M. College, and every effort has been made to remedy these defects, and the improvements and development of the department have been planned and executed with an eye to future results expected to be of the greatest benefit to the agriculture of the State.

To this end, and following the commands of a resolution of the Board of Trustees, I beg to report upon the more important operations since June, 1899.

The southwest tract of land embracing 55 acres has been enclosed with a cyclone woven wire fence, which in my judgment is the best, most durable and most effective fence made. No portion of this field was in cultivation when the department came under the present management. It now affords all the feed and pasturage necessary for six work stock, four cows and their calves, and twenty head of hogs, besides furnishing several acres of land for the conduct of experiments and for pens, lots and pasturage for the stock of the Veterinary Department of the Experiment Station, and residence and garden for the foreman of the farm.

A five-room cottage was built in the summer of 1899 for the foreman, and there has just been completed a two-story structure for investigation of methods and principles of preserving Irish and sweet potatoes from one year to another, and for the study of the methods of curing the various varieties of tobacco grown for different purposes. It might be stated in this connection that a very fair grade of cigar tobacco has been grown from imported Cuban and Sumatran seed, and that further investigation, which is now in progress, promises favorable results.

The buildings and pens of the Veterinary Department formerly occupied a public corner of the most beautiful portion of the agricultural grounds. These have been removed to a more secluded portion of the wooded area, and the position formerly occupied converted into a woodland pasture, sown to blue grass, orchard grass, red and white clover, greatly beautifying that portion of the grounds.

Various open and blind ditches have been built where needed, and work on roads done when there was no more important work on hand.

The two large barns have been reshingled and the barn lot drained and graded. Gates, bridges, etc., have

been made where needed, and several lots, pastures, etc., fenced for the economical maintenance of live stock. The topography of the farm is anything but desirable, and rough and waste places have in the past largely predominated. These rough places increase the cost of cultivation and maintenance, and their conversion into pastures is the only means by which they can be kept presentable and at the same time be profitable. The utilized area of the farm has been increased from eleven acres in 1897 to about sixty in 1900.

The possession of tools, machinery and live stock by the Agricultural Department necessarily throws work upon this department for which there is no return. The Horticultural Department, the campus, dormitories and other departments have drawn upon the Agricultural Department for work stock, labor and tools, which have been supplied as far as could be done without interference with the legitimate work of the department.

It is recommended that a wagon and team be kept for the general hauling of the University, or that provision be made for increasing the working facilities of this department.

Formerly the dormitory waste and slops were sold for 75 cents per month. Supplemented by pasturage, they now produce per year about one ton of pork for the dormitory students. Pasturage is furnished three cows owned by the dormitory, and it is expected that the number will be increased so that all the milk and butter necessary will be produced. Formerly both were purchased at double the present cost.

The department now owns three brood mares, three mules and one colt, and furnishes teams and implements for hauling and plowing for other departments without remuneration. No other work stock are owned by the University.

The public roads bordering the grounds of the department have in many cases been in an almost impassable condition, and permission to work them has been granted by the city council. This work is being done at various times when there will be no interference with more pressing or more important work.

The department has been materially assisted by the employment of student labor, and only such students

employed as were, as far as could be determined, in need of its benefits.

For maintenance, development and improvement the following funds will be needed:

Improvement of grounds, roads, etc. ....	\$ 250 00
Poultry plant .....	750 00
Additional live stock .....	250 00
Implement shed and storage room .....	500 00
Fencing .....	100 00
Implements and machinery .....	150 00
Labor, incidental and running expenses .....	1,000 00
Total .....	<u>\$3,000 00</u>

Respectfully submitted,

C. L. NEWMAN,  
Professor of Agriculture.

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## HORTICULTURE.

*Dr. J. L. Buchanan, President Arkansas University.*

DEAR SIR—I have the honor to submit herewith a report of the Horticultural Department from February 1, 1900, to June 21, 1900—the period of my incumbency as head of this department.

The character of the instruction given is set forth in the University catalogue for 1899-1900. The general sequence of the studies, it will be noted, has been changed somewhat so as to place those subjects of a general or fundamental nature at the beginning, as a logical and necessary foundation for the more special subjects which follow in the course. The work moreover has been thrown entirely in the collegiate department. At the same time a short course without degree is provided for any students who for good reasons cannot take the full course. A course in decorative gardening has been added. Its special aim is training and the cultivation of taste in the embellishment and care of the



home surroundings, while the general principles are equally applicable in the more pretentious public grounds.

The work of the present year has been fairly satisfactory. Students have shown a commendable and gratifying interest in the subjects pursued.

The facilities provided for theoretical and practical training in horticulture have been a source of gratification, but still are not all that are needed. One of the most urgent demands of the work at present is a building in connection with the greenhouse, provided with work table room sufficient for the accommodation of a number of students at one time; tool and supply closets, soil bins, pot stalls, seed drawers, etc., where students may be given practice in various greenhouse or horticultural operations, such as seed growing, potting, making cuttings, grafting, packing, etc., independent of the vicissitudes of the weather.

Another matter which I would recommend to your consideration is the erection of a forcing and propagating house. For this the funds on hand are not sufficient in view of the amounts needed for running expenses in the department, and work in view.

Some improved cultivating tools are needed. Also a small room in the horticultural field for the temporary storage of tools, supplies and products, and to afford shelter in time of storm.

The fence along the west side of the horticultural grounds makes unsafe from cattle the crops and trees on the grounds. The division fence at the south end of the same area next the barn lot should also be replaced.

To meet these and other needs of the department I respectfully recommend that the following appropriations be made. The amounts asked are not excessive, but have been made as small as seem consistent with carrying out the improvements suggested:

Horticultural laboratory .....	\$1,000 00
Forcing and propagating house complete ....	2,000 00
Storage room on horticultural field .....	150 00
Implements .....	100 00
Seeds and plants .....	100 00
Repairs and improvements of ground and fencing .....	450 00



Labor and incidental expenses, freight, express, etc. ....	700 00
Horticultural reference books .....	100 00
Total .....	\$4,600 00

Respectfully submitted,

ERNEST WALKER,  
Professor of Horticulture.

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### MILITARY DEPARTMENT.

*Dr. John L. Buchanan, President University of Arkansas.*

SIR—I have the honor to submit the following report of the operations of the Military Department of this University for the school year beginning on the 20th of September, 1899, and ending on the 21st day of June, 1900.

I entered upon the duties of my office soon after my appointment in August. The theoretical and practical work of this department was about the same as was required last year, and I have striven to conform it as nearly as possible to the requirements laid down in the catalogue.

During the year just closed the drills, recitations and attendance have been as follows:

Number of drills .....	78
Number of recitations .....	140

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Total enrollment in the department during the year..... 430

The equipment of this department is as follows:

BELONGING TO THE UNITED STATES.

Three hundred Springfield cadet rifles, caliber 45.  
Three hundred sets of infantry equipments.

One set of reloading tools.

A large supply of ammunition and target supplies.

BELONGING TO THE MILITARY DEPARTMENT.

1 Stand of colors .....	\$ 50 00
6 Markers .....	6 00
1 National flag .....	2 75
26 Swords .....	208 00
20 White enamel leather belts.....	20 00
1 Set of band instruments .....	600 00
1 Set of leather cases for above .....	80 00
8 Bugles .....	24 00
1 Office desk .....	35 00
1 Office chair .....	7 00
1 Vise .....	3 00
2 Hammers .....	1 00
2 Pliers .....	1 00
1 Tape measure .....	1 00

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Total value .....\$1,038 75

There is now in the Treasurer's hands about \$300.00 for the use of this department during the next session.

Acting upon my predecessor's recommendation, with your permission, I had the cadets' swords remodeled after the regular army style, which, I think, is better adapted to our present uniform.

The two cornets and one clarionet that were stolen last summer were recovered by the town marshal and returned to us very little damaged. At the suggestion of Prof. Busch, and with your permission, I exchanged two old clarionets for a new one.

This year the cadets were organized into a regiment consisting of three companies each. There were more cadets in the regiment this session than ever before. I was compelled to add twenty-five rifles to our rack, and then, at one time, these were not sufficient. The cadet officers as a rule have shown me the greatest respect and have aided me very much in keeping order and maintaining discipline.

I have made use of extra drill as a mode of disciplining the cadets, and find that the results from it have been most favorable. As to the efficiency of the regi-

ment I will refer you to Inspector General Boyle's report as an impartial judge. He expressed himself to you, and Capt. Blanchard published what he had said to him concerning his inspection.

Before closing my report, I wish to call to your attention something that has always given a great deal of trouble, and the evil is greater now than ever before. When Lieut. Chandler first came he got the uniform business in very fair shape, but as time went on, others came into the field, and all he could do was to get fairly good results. Under my predecessor there were four uniform dealers, and you are well aware of the trouble he had. This year there are five regular dealers and several students taking orders for uniforms, and consequently there are a number of different styles of uniforms here. Next year there will be another dealer in the field, making the different styles more numerous. The best remedy I can see for this is to let some reliable firm bid for the business. As you know, the above is only the smallest part of the trouble, and if the board should wish to look into the matter, I would be pleased to appear before them and attempt to show the evils in our present service.

Thanking you for your very kind assistance during the past year, I remain, very respectfully,

J. L. HONOR, Cadet Colonel,  
Professor of Military Science and Tactics.

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#### ART DEPARTMENT.

*Dr. J. L. Buchanan, President of University of Arkansas.*

DEAR SIR—I beg leave to submit the following report for the past year's work in the Art Department.

I have enrolled fifty-two (52) students, eleven of whom were young men, the remaining forty-one (41) young ladies. Each student is required to take not less than two hours per week, and special students are allowed to take sixteen hours per week.

The average time for the class has been four hours per week for each student.

On account of monopoly of time in pursuing the regular University courses of study, the average student has not been able to devote enough time to art to advance very perceptibly. Therefore, as you know, the special course arranged by the Faculty will enable us to do better work in this department another year. I have had enrolled this year nine special Art students.

All of the illustrations for the annual, "The Cardinal," were made by students of the Art Department—practical work in this class for illustrating.

This department having been well equipped in the beginning, it has not been necessary to add to it very much the past year, but now that the work is progressing, we shall need a liberal appropriation to carry it on and keep up the standard. I therefore respectfully ask that you recommend an appropriation of not less than thirty-five hundred dollars (\$3,500.00) for the defraying of the expenses for the next two years. As there is a total lack of books pertaining to Art History and applied design in the Library, I should also respectfully ask for one hundred dollars to provide some reference books along this line, as of the greatest benefit to students. As special correspondent to the Art Gazette I have contributed frequent letters of University interest, amounting to the sum of several hundred dollars in free advertising.

The following is a list of the value of material on hand for equipment:

Plaster casts .....	\$ 75 00
Drawing boards .....	5 00
Easels .....	9 60
Six tables .....	35 00
Thirty chairs .....	22 50
One screen .....	1 50
Bric-a-brac .....	10 00
Art magazines .....	20 00
Art studies .....	20 00

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Total ..... \$129 20

Respectfully,

JENNY DELONY RICE,  
Art Director for University of Arkansas.

## EXPRESSION AND PHYSICAL CULTURE.

*Dr. John L. Buchanan, President University of Arkansas.*

DEAR SIR—I have the honor to submit the following report of the Expression and Physical Culture Departments for the year 1899-1900.

The difficulties naturally attending the introduction of a new department and new methods were in most instances easy to adjust.

The enrollment in the Expression Department has been large—sixty-seven young ladies in the course arranged for them; forty young men, and ten young ladies in the Oratory classes. The work has been carefully done, and the interest unflagging.

It is gratifying to observe a decided tendency among the most developed students to complete the course preparatory to teaching Expression.

I would earnestly request that the necessary means be provided for other reference books, charts, blackboard, and the use of a piano for voice training.

The few books especially bearing on this department of work, added to the library this year, have been of great benefit to the students, but there are others needed.

The Physical Culture Department was introduced this year for the first time. The room assigned for the Gymnasium was well adapted for the work, but there was no apparatus for practical work. The Trustees kindly appropriated two hundred dollars (\$200.00) for apparatus.

This appropriation, supplemented by the work done in the shops, under Prof. Wilson's direction, and the donation, by the Director of Physical Culture, of the large teachers' discount allowed her by Spalding, has enabled us to place in the University Gymnasium apparatus valued, at catalogue rates, at five hundred dollars (\$500.00).

The Physical Culture Department has enrolled seventy-five members. The enrollment would have been much larger had it been possible to arrange an earlier hour than 4 o'clock for meeting the class.



The success of the class has been remarkable, the students appreciate the practical part of the work, and are gratified by the benefits derived.

I would respectfully call your attention to the great need of suitable dressing rooms for the young ladies, lockers for their suits, and proper bathing appointments, and I would suggest the two rooms back of the Garland Literary Hall as suitable for such a purpose. I have met my classes regularly twenty-four hours per week, having missed one day during the session on account of illness.

Very respectfully yours,

JENNIE W. BOWMAN,

Instructor in Expression and Physical Culture.

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### LIBRARY.

*Dr. John L. Buchanan, President University of Arkansas.*

DEAR SIR—In presenting the eighth annual statement of the work of the Library, I ask permission first to call your attention to the improvements that have been made. Seven new tables have been placed in the reading room, a file for the daily papers, and a larger reference desk. In this desk are drawers for the volumes of the Century Dictionary, and they can be used much more conveniently and with less injury. The books have all been re-arranged in the shelves and are now in good order.

There are in the Library 7,839 bound volumes, 465 having been added this year. The following is a classified list of the additions:

Fiction .....	215
Department of Economics .....	49
“ English and Modern Languages..	74
“ Philosophy and Pedagogy .....	7
“ History .....	2
“ Music .....	2

Department of Art .....	9
“ Agriculture .....	4
“ Ancient Languages .....	14
“ Engineering .....	12
“ Elocution .....	10
“ Geology .....	3
“ Mathematics .....	1
Government Reports .....	59
Reference Books .....	4
<hr/>	
Total .....	465

From an examination of the withdrawal books I find twenty-seven books out. Ten of these were lost or stolen and the others worn out. Twenty books have been reserved to be rebound and there are quite a number of magazines, some dating back several years, to be bound. On account of the appropriation being so nearly exhausted, this work could not be done this year.

There were 1,000 useful pamphlets received, making in all a total of 7,499. Twenty-three periodicals are subscribed for and seven are sent complimentary. Four daily papers were ordered and as many as twenty-five weeklies are received.

A list of new books for general use in the Library has been made out by the committee and sent by the Librarian to different publishing houses in order that their prices may be quoted. These will be paid for out of the money on hand. The fines collected for keeping books out over time supplied the desk with postage, ink and mucilage.

Mrs. M. Galloway presented the Library with Reports of the Paris Exposition of 1878. They comprise six large volumes and are a useful addition.

Respectfully submitted,

ADA PACE,  
Librarian.

## EXPERIMENT STATION.

*Dr. John L. Buchanan, President.*

SIR—The complete work of the Experiment Station for the fiscal year ending June 30 is contained in the report made to the Governor, and a copy thereof is attached hereto. The following improvements were made in the Station buildings and grounds:

The quarters of the Agriculturist and Chemist were enlarged, a porch added to the front of the building, glass doors put in the hall, and the grounds laid out in walks and sown to grass.

These improvements facilitate experimental work and greatly improve the appearance of the Station.

The completed experiments of the year were published in five bulletins, aggregating 134 pages, and each bulletin was printed in 6,000 copies. We have had our mailing list, which contains the names of about 6,000 farmers, set in solid type, and instead of addressing 24,000 envelopes by hand each year we now use the Acme Mailing Machine, which rapidly stamps the addresses. Under this plan the envelopes present a better appearance, are up to date, and the work of mailing out the bulletins is lessened to a considerable extent.

The subjects of the five bulletins that have been issued are to be found on page 6 of the above mentioned report, and the subject matter of each appears on succeeding pages of that report.

The work now in progress in the five departments of the Station is attached hereto over the signatures of the members of the staff who have the lines of work in charge. The experiments that I personally have in progress are as follows:

Experiments to ascertain foods and methods that will economically harden soft pork, which we have succeeded in producing at a very low cost on some new foods.

Testing the relative cost and fattening value of certain combinations of cheap foods that are adapted for pigs to graze.

Testing the relative fattening qualities of the scrub and well bred hog. This is to include the quantity of

foods consumed per pound gained by each breed. The object of the trial is to establish the loss sustained by the farmer who grows the scrub hog instead of the well bred hog.

Continuing the tests of legumes, such as cow peas, vetches and clovers, for growing between the staple crops in winter and summer to produce hay and grazing. Also to ascertain their beneficial influence on succeeding crops of cotton, corn and grain on thin upland soils of the State. That character of soil constitutes the bulk of Arkansas' cultivated soil, and is of a character that rapidly loses vegetable matter and nitrogen when cultivated.

I have now in press a bulletin on the best legumes for growing in winter and for growing in summer between the staple crops of cotton, corn and grain.

The general condition of Station affairs and equipments is much better than ever before, and enthusiasm and progress prevail in all the operations. Six thousand Arkansas farmers now receive our bulletins, and others are applying daily for bulletins.

The lease from the owners of the land on which experiments are made at Newport expires this year, and to be in accord with the ruling of the Department of Agriculture relating to expenditure of Hatch funds further work at Newport cannot be undertaken, and it is recommended that the board order the work there discontinued at the end of the year. Co-operative experiments with selected farmers in East Arkansas and feeding experiments at Fayetteville that will be adapted in their results to this section of the State are suggested in lieu of further experiments at Newport.

Respectfully,

R. L. BENNETT,  
Director.

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## POMOLOGY.

During my connection with the Station I have established seven trial orchards in different sections of the State to ascertain the varieties best adapted to the soil and climate of the several localities.

I have held seven Farmers' Institutes, at which much interest was manifested, as evidenced by the organization of farmers' societies at most of them. The aggregate attendance upon these meetings was about twelve hundred. The people seem aroused to deeper interest along these lines, and I have numerous invitations to hold institutes and effect organizations at other places.

I have visited several orchards at the earnest request and solicitation from the communities that had been infested by San Jose scale, leaf rust, blight, apple scab, bitter rot, etc. Under my instructions these diseases are being eradicated and fruit growers generally are beginning to realize the efficiency of spraying for these diseases and insect pests which threaten to destroy their orchards.

After a conference with the Government Inspector I am encouraged to extend trial orchards, and shall endeavor to establish one in each county where the successful growing of fruit has not been satisfactorily demonstrated, and where the best varieties have not been determined. For this purpose I am growing on the Station farm a large number of fruit trees of different varieties. I am carrying on an experiment to determine the best length of seedlings and scions to develop the best root system for trees. Also experimenting with, and feel sure that I am about to solve, the problem of the root knot on fruit trees, which has heretofore baffled our scientists and most skilled and practical fruit-growers. Am also experimenting along unexplored fields of spraying solutions, but the time has not been sufficient to determine results.

Respectfully,

W. G. VINCENHELLER,

Pomologist.

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## BACTERIOLOGY, ANIMAL DISEASES.

In the subjoined report an outline is given of the work of the past year and of that now in progress in my division of the Experiment Station, and the same is hereby respectfully submitted.



My investigations have been almost exclusively concerned with live stock diseases. A few microscopical examinations of specimens of plant diseases have been made on request when the material was presented at the laboratory.

The research work on animal diseases consisted of :  
(1) A continuation of my previous investigations of the mode of origin of tuberculosis in cattle and other domestic animals, a report of which is contained in bulletin 57. At your suggestion I have limited my work on this line to experiments already begun at the time of publication of my last bulletin. These latter experiments will, I hope, be completed and ready for publication next fall.

Most of my time has been devoted to a biological study of the bacterial causes of swine diseases and possible modes of prevention of hog cholera by antitoxin injections and other modes of preventive inoculation. Antitoxin for hog cholera is being prepared in my laboratory and pens in small quantity as a provisional test of this method of prevention and cure, but I can as yet say nothing as to its utility. Preventive inoculation against this disease, according to the methods which I have adopted and developed, has been more extensively tested and proved sufficiently promising to justify its application on the farm, and a circular to this effect has been published for general distribution. This method will probably receive a thorough test during the coming year.

In addition to the above research work I have at the request of the Secretary of State Board of Charities examined for tuberculosis by the tuberculin test the cattle at the asylum for the insane and the schools for the blind and deaf mute at Little Rock.

A small correspondence, chiefly relating to stock diseases in different parts of the State, has also been attended to.

Respectfully,

R. R. DINWIDDIE,  
Bacteriologist.

## AGRICULTURE.

I have the honor to make the following report as Agriculturist of the Experiment Station.

The main lines of investigation at present in progress have been continued one and two years, and in the majority of cases it is preferred that final reports be deferred until three successive trials have been made, unless the first two agree. The work of this department in progress is as follows:

Corn— $2\frac{1}{2}$  Acres: Effect of rotation and green manuring upon yield. Effect of climate, locality, etc., upon hardiness, yield and earliness. Improvement of varieties.

Wheat  $\frac{3}{4}$  Acre: Effect of rotation and green manuring upon yield. Effect of climate, locally, etc., upon hardiness, yield and earliness. Checks to chinch bugs.

Sorghum— $\frac{1}{2}$  Acres: Selection of varieties for various proposes for which it is used, and the comparative value of sorghums for fodder and grain.

Cowpeas and Other Legumes—4 Acres: For production of hay and grain, in systems of rotation and values as restorers of fertility.

Grasses for Forage, Hay and Pasture—4 Acres: For permanent and temporary pasture, for hay, in systems of rotation and in the utilization of waste and worn places.

Potatoes— $1\frac{1}{4}$  Acres: A 19x29 root cellar has been constructed for studying principles and practices underlying the keeping of both kinds of potatoes from one year to another.

Tobacco— $\frac{1}{2}$  Acre: A tobacco house has been constructed for experimentation with imported and domestic tobaccos, particularly regarding their profitable curing.

Material for the following bulletins will be ready when the present crops are gathered: "Wheat, Oats and Rye;" "Irish and Sweet Potatoes."

Respectfully submitted,

C. L. NEWMAN,  
Agriculturist.

## HORTICULTURE.

The following work is in progress in this department:

Tomatoes, musk-melons and beans are being tried as to their yield, adaptability for shipment to northern markets early, and to Texas markets later, for the benefit of truckers; about twenty kinds of each class.

Experiments are also in progress in growing celery and winter cabbage.

Strawberries are receiving attention as to comparative yield by weight, and notes upon relative merits of about 100 varieties for market shipping. A number of seedlings are being grown with a view to obtaining improved market varieties.

Insects—Notes from correspondence, and upon insect pests of the season here. Experiments with remedies.

Grapes—The comparative yield of summer pruned vines and vines not summer pruned.

Spraying—Experiments in varying the formula of Bordeaux mixture.

Bush Fruits—Summer and winter pruning of blackberries and raspberries.

New Vegetables—Trial of adaptability to cultivation in this State.

Respectfully submitted,

ERNEST WALKER,  
Horticulturist and Entomologist.

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## CHEMISTRY.

The work of this division during the past year may be briefly summarized as follows:

The analytical work on the wheat kernel has been completed.

Juices from twenty-five samples of sorghum cane have been analyzed.

Lards from forty-eight samples of pig fat from the Newport Sub-Station have been prepared and examined.

Complete analysis of seven samples of foods used in pig feeding experiments have been made.

Nine samples of fertilizers and numerous samples of mineral and rocks from various sources have been examined for identification.

Preliminary studies have been made of cotton seed oil and cotton seed meal, with the view of increasing their usefulness in the commercial world.

During the coming year it is hoped that the study of cotton seed oil, lard and lard compounds may be carried on to such an extent as to furnish material for a bulletin containing some useful information concerning the relative merits of these substances for culinary purposes.

J. F. MOORE,  
Assistant Chemist.





# Branch Normal College.

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PINE BLUFF, ARKANSAS.

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*To the Board of Trustees of the University of Arkansas.*

GENTLEMEN—I have the honor to present to your honorable body the following report of the progress of the institution for the current year. I have added thereto such suggestions as seemed to be necessary and proper, and submit the whole to your honorable body for such disposition as may be deemed advisable.

## PROGRESS DURING THE YEAR.

This has been satisfactory in the highest degree. I may properly specify some points in this connection:

1. While the number of students has not been greater than usual, the attendance has been far better; that is more continuous, and the students nearly all of the most desirable class.

2. There has been a great increase in the number of female students, our increase being very largely made up of that class of students. I think that the excellent showing that the institution has made in fine needle-work, typewriting and music has had much to do with the increase in the number of female students. And, moreover, the fact has not been unnoticed that our female students have been very successful in securing desirable positions as teachers.

3. The dormitory has been filled with female students to such an extent that I have been compelled to locate three and sometimes four in nearly every room. I

deem this very desirable, as it afforded the necessary facilities for instructing them in household duties, a species of instruction of which every one of them was sadly in need. Every one of these females learned to make her own clothing, to do plain cooking, and to perform other household duties, besides being protected from exposure. Our success in attracting and retaining the females is very gratifying; as special efforts have been made to attract them elsewhere. I have furnished these students with good substantial board, fuel and light at the rate of \$6.00 per month, which is the actual cost of the articles mentioned, while my family has performed the duties of a matron. This was no sinecure during the present year, as it involved the care of some eight or ten cases of measles, besides the usual amount of sickness. A few cases of smallpox occurred among the students, but I succeeded in keeping it out of the dormitory and from producing a panic among the students. But the prevalence of these diseases had considerable effect in keeping students away from the institution.

#### DAILY PROGRAMME.

The students of the Literary Department begin their forenoon work at 9 and close at 12:30; those of the Mechanical Department begin at 10 and close at 12:30. In the afternoon all departments run from 1:30 to 4. The shops are not operated upon Friday afternoon, in order to allow all students to attend the literary societies.

Every teacher in the Literary Department is employed continuously during the time mentioned, the principal faring just as the others do. The advanced students assist in hearing some recitations, and thereby do something in the way of relieving the assistant teachers.

#### LABOR OF TEACHERS.

I deem it proper to recite somewhat in detail the duties severally performed by the teachers, beginning with the principal, as follows:

Principal—Opening exercises, including devotional services and training of the entire school in reading music. Every one of our students, this year, learned to read music—some excellently well. An inspection of

our commencement programme will convince any expert that the institution presents to the public only music of the highest class. Three of the teachers, the principal, Prof. Smith, and Miss Corbin, are expert performers. Other duties performed by the principal are as follows:

1. Keeping record of attendance.
2. Collecting all tuition and other fees.
3. Making triplicate reports to Washington, as required by the law of the United States.
4. Making report of the institution as a Normal school, as required by the same law.
5. Superintending dormitory.
6. Furnishing copy of my records to the secretary and adjusting accounts with him.
7. Preparing catalogue and distributing same.
8. General correspondence.
9. Making preparations for public exhibitions, such as constructing and removing a stage, decorating, leading the musical performances, etc. The stage erected this year was forty-five feet in width and sixteen in depth; and it was no small amount of labor to construct and remove it.

Prof. Smith has classes at all the regular hours, assists in the musical exercises, and superintends the proceedings of the Senior Literary Society.

Prof. Childress has classes at all regular hours, acts as librarian and assists the principal in preparing his various reports.

Mrs. Freeman has classes at all the regular hours, superintends the rhetorical exercises, and, in conjunction with Prof. Childress, has secured excellent results in penmanship and drawing.

Miss Louisa Corbin has produced work of the very best class, equal to any that was exhibited by the high schools of Washington, D. C., where I exhibited it in comparison with the work done there. The teacher there would scarcely believe that such work was done in an Arkansas school.

## APPROPRIATION AND EXPENDITURES.

The moneys appropriated by the board at its special meeting have all been expended in accordance with instructions, except about eight dollars of the appropria-

tion for the dormitory. This amount Messrs Langford and Harris refused to certify, because the grocer included in his bill the amount of one dollar for some articles purchased a day or so before the meeting of the board was held. I presume that technically they were right in so doing, but I am satisfied that an inspection of the bill will satisfy your honorable body that the bill should be allowed. It is in the hands of Mr. Reagan. I do not wish it to be paid if the board decides that it should not be. The typewriters and sewing machines purchased have been fully tested and have given entire satisfaction. The well furnishes an abundant supply of most excellent water and relieves me of the fear of a water famine, such as my family suffered from last summer. It cost something more than the amount appropriated for it, owing to its great depth. I estimated the cost by that of one I had excavated for myself, and that of the other well in the college grounds, but it was nearly twice as deep as either of those, making the expense exceed my estimate by about ten dollars. The outfitting of the dormitory is still so scanty that I am compelled to supplement it with a large amount of my own furniture. The demand for more equipment necessarily followed from the great increase in the number of boarders therein. The appropriation for contingent expenses being exhausted from having to draw upon it for the purchase of fuel, left nothing on hand to pay for the necessary expenses of closing, and I was compelled either to advance the necessary amount for diplomas, programs, etc., or dispense with these things. I concluded to adopt the former course and have paid several necessary bills out of my own funds, trusting to be remunerated out of the money received for diplomas when the June accounts are adjusted. I am of opinion that it would be a good idea to connect the dormitory with the heating apparatus, and that it would be a reduction of expense for fuel that would soon pay for making the connection. The same connection, if made with the wash house, would be of very great advantage, as the wash house as at present is of very little use. It needs to be fitted up properly to do the washing of about thirty boarders. I furnish the girls with fuel for their washing, and the expense counts up in the course of the year. Prof. Harris thinks that to connect the dormi-



tory and wash house with the heating apparatus would render it necessary to have a fireman on duty at night; but as the school house is warm enough during the whole night, I am satisfied that such would not be the case. The dormitory girls are expected to retire at 10 o'clock and do not need to be kept warm the whole night.

I have mentioned these details, not at random, but with the view of suggesting to your honorable body the necessity for the improvements which I consider absolutely necessary for the future operations of the institution. The fact is that it has outgrown its present facilities and needs a large addition thereto. During the year we have had to accommodate not merely an enrollment, but an actual continuous attendance of over two hundred students. In order to do this, we have had to bring into requisition every old laid-away desk that could be mustered up about the premises, as well as some ordinary benches made in the shops. By these means, we managed to give some kind of a seat to every student. Of course, the house was crowded much more than was desirable. The dormitory was also crowded to such an extent that I was compelled to locate as many as four girls in several of the rooms. The shops have always been much too small, and after dispensing with the foundry and the removal of the cupola, are still so. They need a second story, both for room and because some of the machinery was designed to have the power applied from beneath. Every case in the Library room is crowded with books, and there are hundreds of volumes stowed away around the building, just wherever a place could be found for them. Of course such a thing as proper classification and arrangement is out of the question. The Typewriting Department is located in the overcrowded Library; and the Sewing Department in the hall of the dormitory, and are equally destitute of the accommodations they need. It is very desirable that both of these should be supplied with proper facilities for storing and exhibiting their products. The institution has a fine supply of physical apparatus, but the use of it is greatly hampered by the lack of proper laboratory, so that the necessary preparations for experimental work could be made without risk to the apparatus or danger to the students. And the campus needs to be properly drained and supplied with shrubbery,



when it would be one of the most beautiful places in the State. The fence of the campus is of boards on two sides and of a combination of boards and wire on the other two. The wire is a nuisance and should be replaced with boards, which would cost but a small amount. And finally, there should be an addition of at least two members to our corps of teachers. In this particular we are more scantily provided for than any other institution in the State, and the principal has had to hear several recitations outside of school hours. The assistance rendered by students is not of the most desirable kind, and is liable to many interruptions. We were compelled to excuse several of this class of students while they were working upon the new steel tank, and others because they were compelled to secure some money by labor elsewhere. This was done in one instance because a student was elected a lay delegate to the General Conference of the African Methodist Episcopal Church. We were somewhat proud of the fact that all of the delegates to that body from our State were students, or ex-students, of this institution.

I have endeavored to show that the institution has outgrown its property, or present accommodations, and needs more room. I am, of course, aware of the fact that only the General Assembly can afford the requisite relief; but there is no hope of that relief being granted unless your honorable body will recommend its being done. A new building with rooms for a Laboratory, Typewriting room, Library and Sewing Department is what is really needed, and a second story to the Mechanical building. No fabulous sum will be needed to furnish the institution with this building, the cost need not exceed six or eight thousand dollars. A wing to the present building would probably cost much less than the last amount mentioned. Or, if the walls are strong enough, a third story could be added, and would answer all purposes.

A part of the necessity for an addition to our teaching force arises from the fact that some of our students aspire to go beyond the Normal course and complete the regular collegiate course leading to the degree of A. B., and some have already done so. Two students, Agnes Green and Charles S. Oats, have attended the institution during the entire year and have recited to the prin-

cipal. I think that it would be right to either confer the degree upon them now, or to assure them of it at the end of next year.

### SALARIES OF TEACHERS.

I appreciate in the greatest degree the action of the board at the November meeting in being so liberal in the matter of salaries, but regret that Mrs. Freeman was not granted a slight advance as well as the other teachers. As this seems to have been a mere inadvertence, I deem proper to call the attention of the board to the matter, in order that the mistake, if such it was, should be remedied. I hope that it will be done. Prof. Smith and I were placed upon the same footing as teachers much our juniors in time of service, which he considers as just cause of complaint. It is for the board to decide whether it, in the limited time it had to consider the matter, acted inadvertently, but I wish to state that, personally, I was too much rejoiced at the action of the body in granting an increase and making it retroactive, to regret its action, except so far as it relates to the case of Mrs. Freeman. And as my assistants are already paid very fair salaries compared with other teachers of the State, I hope that enough funds shall be retained by the board to furnish the additional assistance that seems to be needed.

All of which is submitted.

Very respectfully,

J. C. CORBIN, Principal.

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### TREASURER'S REPORT.

PINE BLUFF, ARK., June, 1900.

*To the Honorable Board of Trustees of the University of Arkansas and Branch Normal College.*

GENTLEMEN—I have the honor to submit the following report of the work done under my supervision in

the Department of Mechanic Arts from June 1, 1899, to June 1, 1900.

During August I had put down a substantial brick walk, 5 feet wide and 520 feet long, extending from College building to front entrance to campus.

The wood-working department has been extended, taking in the room formerly occupied by the foundry, which gives us a room 25 by 70 feet, to which three new machines have been added, viz., 20-inch Centennial Surface Planing machine, tenoning machine and a mortising and boring machine. There were 65 students under instruction, and the interest manifested and progress was entirely satisfactory.

Many improvements and much repair work was done about the entire premises. A steel tank of ten thousand gallons capacity, resting on a steel tower 39 feet high, was completed several months ago. Our water-works and supply is now complete and equal to any emergency.

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As Treasurer and Collector I submit the following report:

Quarterly reports have been filed with your secretary, showing receipts, disbursements and balances. March 1, J. C. Corbin submitted a claim amounting to about \$7.50 to me for approval, stating the privilege to purchase such articles was covered by the resolution of the board which allowed him \$100 from the contingent fund to buy furniture for the dormitory. After careful consideration I refused to approve this claim. In my judgment it was a violation of the spirit of the resolution from the fact that all the articles were perishable, such as table-ware, lamp chimneys, etc., and because the face of the bill showed the goods to have been purchased some time prior to the resolution.

Corbin advised me that he would submit the claim to you at this meeting, so I make mention of the facts that you may understand why they were not approved.

THE LIBRARY OF THE  
JAN 14 1931  
UNIVERSITY OF ILLINOIS

COLLECTIONS, DISBURSEMENTS AND ENROLLMENT.

Balance in treasury June 1, 1899 .....	\$20,758.47
Collected from State Treasurer June 22, 1899	6,500.00
Collected from other sources July 5.....	42.50
Collected from State Treasurer (Morrill)	
August 23 .....	6,818 18

\$34,119.15

Disbursements June 1, 1899, to September 1	1,465.53
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Balance in treasury September 1, 1899.....	\$32,653.62
Collections from September 1 to December 1.	175.00

\$32,828.62

Disbursements from September 1 to Decem- ber 1 .....	4,269.03
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Balance in treasury December 1, 1899.....	\$28,559.59
Collections from December 1 to March 1, 1900	245.00

\$28,804.59

Disbursements from December 1 to March 1.	2,313.00
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Balance in treasury March 1.....	\$26,491.59
Collections from March 1 to June 1.....	40.00

\$26,531.59

Disbursements from March 1 to June 1 .....	5,492.76
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Balance in treasury June 1, 1900, as per cer- tificate of deposit attached .....	\$21,033.83
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ENROLLMENT.

There were enrolled during the session on old ap- pointments .....	113
On new appointments .....	92
Total enrollment .....	205

Respectfully submitted,

W. S. HARRIS, Treasurer.









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50/02

UNIVERSITY OF ARKANSAS

BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

AND

THE LIBRARY OF THE  
JAN 14 1931  
UNIVERSITY OF ILLINOIS.

OFFICERS

FOR THE

YEARS 1900-01, AND 1901-02

FAYETTEVILLE, ARK.

1902

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THRASH-LICK PRINTING CO.  
FORT SMITH, ARK.



UNIVERSITY OF ARKANSAS

BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

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THE LIBRARY OF THE  
JAN 14 1931  
UNIVERSITY OF ILLINOIS.





# BIENNIAL REPORT OF BOARD OF TRUSTEES

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*His Excellency, Gov. Jefferson Davis:*

SIR:—In compliance with the law, we have the honor to submit the following report for the legislature, covering the years 1900-1901 and 1901-1902.

Heretofore we have presented our requests for appropriations, stating the amount needed for each department of the University. In this report we have adopted a new plan, and have made carefully tabulated statements of the needs of each department, giving the names of articles needed and the cost of each. We invite your careful scrutiny of each item. We are asking for those things only that are necessary to maintain the efficiency of the University.

Our report is divided into three main divisions. First, the general reports of the Board of Trustees and the retiring president, Dr. J. L. Buchanan. Second, itemized statements of the needs of each department. Third, academic reports from the professors, showing the work accomplished, work in progress, and future needs of the various divisions.

## BURNING OF MECHANICAL HALL

We regret to have to report that on the night of Oct. 20th, 1902, our Mechanical Hall was destroyed by fire. Through the heroic efforts of the students, a considerable amount of the machinery was saved. The total loss amounts to fifteen thousand dollars without insurance.

At the meeting of the last legislature, we urged an appropriation of two thousand dollars for insurance, but nothing was given. It is true that the State of Arkansas is rich enough to carry its own insurance, but in the case of the State University an exception to this general rule should be made. When a fire occurs between the sessions of the legislature, and there are no funds on hand to commence immediate rebuilding, many of the students are deprived of the opportunity to finish their course of study.

The few years usually devoted by young men to collegiate work are so precious that the destruction of a college building often proves an irremediable interruption. There should be some fund, therefore, by which the college authorities can replace promptly buildings destroyed by fire. Insurance companies provide such protection on a safe and reasonable basis, and we therefore urge your honorable body to appropriate two thousand dollars for this purpose.

#### TEMPORARY ARRANGEMENTS

Two hundred students in the University are receiving instructions in the Mechanical Department. Had we not made some prompt temporary arrangement for the instruction of the students, a majority of them would have left the University to go back home, or to attend other colleges. We therefore borrowed twenty-five hundred dollars from the banks of Fayetteville to erect a small building. This money was lent us without interest. The building now constructing will be permanent in character, but of course will be too small for the regular work of this important department. It is so small that, when completed, it will be an annex to the new mechanical hall.

#### ORIGIN OF THE FIRE

The origin of the fire is unknown. The professor in charge is a careful man, and we have no reason to believe that the fire was due to any neg-

ligence on his part. The fire was discovered before it had made any serious progress. The alarm was given, and the fire company responded promptly. It is our deliberate judgment that the building could have been saved but for the defective system of water works in the city of Fayetteville. On the night of the fire the water pressure was low, and the firemen were unable to get water in sufficient force and volume to subdue the flames.

A careful investigation has been made, and we find that the condition prevailing on the University campus is not peculiar, as the entire city has been without adequate fire protection. No blame can be justly attached to the University for such a deplorable situation.

It is our intention to institute proceedings in the courts against the water company, for damages. The city council of Fayetteville will doubtless demand and require that the water company comply with the terms of its charter, by giving sufficient pressure for city purposes.

We have employed a night watchmen to make the rounds of every building every hour during the night. It seems to us that for the protection of \$350,000 worth of property, a night watchmen should be employed permanently. We are paying one dollar a night, and ask that \$730,00 be appropriated to keep such a man for the next two years.

#### NEW MECHANICAL HALL

The recent fire necessitates a new mechanical building. The Morrill fund from the federal government is given on the express condition that agriculture and mechanic arts be made the two leading subjects in the University.

If we continue to receive this money, good faith demands that we adhere to the conditions. If we fail to make proper provision for mechanic arts, the money may be withheld from the State of Arkansas.

The mechanical hall destroyed by fire, was small and the work was cramped. This department has been growing in popularity with the

students. The graduates have met with conspicuous success in life. In rebuilding, it is the part of economy, to prepare for the future needs and growth of the University.

Two years ago we asked fort wenty thousand dollars to build a hall, for civil and electrical engineering. The existing situation affords excellent opportunity, which may not come again in many years, to put up a building to be used by the mechanical electrical, and civil engineering departments.

At present the electrical division is taught in the basement of the main building. In the classes it is necessary to operate a gasoline engine, which is a source of danger to the largest and most important buildings on the campus.

The civil engineering labratory is also in the dimly lighted basement of the main building. Some of the instruction is given inconveniently on the fourth floor. Connected and well lighted rooms would greatly facilitate the work of this department.

Two years ago we needed an engineering hall. To-day our need is more urgent than before, because of the growing interest in electricity and civil engineering. We recommend, therefore, that the sum of fifty thousand dollars (50,000) be appropriated for a new engineering hall, to take the place of the one destroyed by fire, and that in this building quarters be provided for the departments of electrical and civil engineering.

These departments are closely correlated, and can use so much machinery in common that the future maintenance will be cheaper and the instruction better, if all are brought together in one building. At least half of the students in the University are taking the various engineering courses, and it is likely that the percentage will increase because of the wonderful industrial opportunities in the South for young men educated along scientific and technical lines.

We urge therefore that a substantial, commodious building be erected to provide necessary fa-



cilities for work. A careful estimate shows that we cannot put up the building, and buy the new machinery, and operate it two years, for less than fifty thousand dollars (50,000).

#### DORMITORY FOR YOUNG WOMEN

Another urgent need of the University, is some provision for the care of young women of the state, who are seeking the advantages of higher education. Practically nothing has been done at the University for girls. The various divisions of engineering, mechanic arts, and agriculture are equipped and conducted for the benefit of the boys. While the girls are not prohibited from taking these courses, the work is of such a nature that they do not care to take them. There are no industrial opportunities in the institution for girls.

#### WHY GIRLS LEAVE ARKANSAS

The president examined the available catalogues from neighboring states, and counted the names of 153 girls who were attending institutions outside of Arkansas last year. A more extensive investigation would disclose the fact that more than 300 Arkansas girls are going out of the state every year to secure the advantages of higher education. Each girl spends about \$400.00 per annum, making a total of about \$120,000 sent out of the state every year. The Arkansas school girl is in truth and reality the "Arkansas Traveler".

There is now at the University only 128 young women. Why are there so few? For two reasons: In the first place boarding privileges are unsatisfactory. There is no dormitory for girls, and many have come to the University, and, finding it impracticable to make satisfactory arrangements to board, have returned home. There are parents who would send their daughters to the University, if they felt that the girls would be under dormitory restrictions. In the second place, girls are not sent to the University because many lines of work demanded by women are not provided. There should be good strong courses in domestic science, cook-

ing, millinery, dressmaking, stenography and type-writing, and floriculture.

In most of the states schools are maintained at great expense especially for the girls to develop these lines of instruction. A dormitory would enable the University to develop its normal department, because normal courses are taken mostly by women, this, in turn, would give a fresh impulse to the development of public schools.

#### WHAT SOUTHERN STATES ARE DOING

Records show that Arkansas is the only southern state that does not make special provision for the higher education of her daughters. Can we afford to let this anomalous condition continue? The following statement gives the annual appropriations and value of the buildings provided by a few other southern states, especially for the higher education of women.

The state of Georgia has erected a special building for the education of girls, costing \$165,000.00. Georgia gives \$30,000 per annum for the education of her girls, and 382 young women were in attendance last year. North Carolina has erected a special building at a cost of \$175,000.00, and gives annually for the education of girls \$56,000.00. Last year 450 young women were in attendance. Louisiana has buildings that cost \$85,000.00, and gives \$40,000.00 per annum for the education of girls. Last year 534 girls were in attendance. South Carolina has erected buildings costing \$325,000.00, and gives annually for the education of girls \$65,712.51. Last year 449 students were in attendance.

There is a demand from all parts of Arkansas that a dormitory be built for girls. A dormitory sufficiently large for present demands can be erected for fifty thousand dollars (\$50,000). We earnestly recommend that this amount be appropriated.

#### TEXTILE DEPARTMENT

On account of more urgent needs, we do not

ask for an appropriation for a textile department this year. It may be well, however, to call your attention to the economic importance of such work. The states of North Carolina, South Carolina, Georgia, and Mississippi, have already established textile schools, and they are doing a great and good work.

In round numbers, Arkansas produced last year seven hundred thousand bales of cotton. These bales, averaging five hundred pound each, were equivalent to three hundred and fifty million pounds of cotton, sold on the market in the raw state at eight cents per pound, the cotton crop of Arkansas would bring twenty-eight million dollars. The value of an Arkansas crop of cotton, if manufactured, would be as follows:

Twills at 32c per lb.....	\$112,000,000
Satteen weaves at 75c per lb.....	262,500,000
Mercerized checks at \$1.00 per lb.....	350,000,000
Imitation swivel silk at \$2.00 per lb.	700,000,000

Startling as these figures may appear, they represent the worth of the cotton crop when converted into fancy weaves.

The object of a textile department is to fit students for such work, and to introduce cotton mills into the state. There is no reason why cotton mills should not be immensely profitable in Arkansas. There is a very large coal area from which coal may be transported to the mills at about one-half of the cost that the states on the Atlantic seaboard have to pay. Cotton is abundant, and, if labor conditions are satisfactory, cotton mill business will be more profitable here than in the East.

Makers of textile machinery have already offered to donate to President Hartzog about five thousand dollars' worth of machinery, in case the textile department is started. While the University would be glad to have the textile department, we do not feel constrained, in view of the many other obvious and urgent needs, to make a specific request for any appropriation this year.

## AGRICULTURAL NEEDS

Agriculture is the fundamental productive industry. Whatever improves the condition of the farmers, improves the whole state. We therefore feel the deepest interest in the development of our agricultural department.

We receive from the federal government annually the Morrill, Harch, and Scrip funds. The law reads that this money is given to the states "for the endowment, support, and maintenance of at least one college where the leading object shall be, without excluding other scientific and classical studies, and including military tactics, to teach such branches of learning as are related to agriculture and mechanic arts, in order to promote the liberal and practical education of the industrial classes in the several pursuits and professions of life."

For the improvement of our agricultural department we have special recommendations to make, as follows:

1. Addition of Dairying and Veterinary Divisions.
2. Establishment of Farmers' Institutes.
3. Creation of Entomological Board.
4. Fund for Veterinary Inspection.
5. Law for the Inspection Fertilizers.

## DAIRYING AND VETERINARY DIVISIONS

No provision has been made to teach dairying or veterinary science. Both these industries are of supreme importance. Arkansas is now importing annually millions of dollars worth of butter and cheese. Is it not time to begin giving some instruction in scientific dairying, to teach young men of the state how to handle butter-making machinery, and how to make cheese?

In the matter of animal husbandry, many problems are pressing upon us. We ought to have a good veterinary building and a competent veterinarian in charge to show students how to fight against Texas fever, how to judge and select good breeds of cattle, and how to solve many other problems of a similar nature. We have on the



staff of the experiment station a very efficient veterinarian, but no provision has been made for teaching veterinary science in the University.

Dairying and veterinary science are taught in practically every agricultural college in the United States. An agricultural course without these subjects is incomplete and defective. The soils and climate of Arkansas are remarkably well suited to the cheap production of a variety of food stuffs, and there is no reason why this state should not be among the first in animal production. For the establishment of these divisions it is recommended that the following appropriations be made:

Additional land for pasturage.....	\$2,500
Dairy building, cheese room, separators, engine, Modern dairy machinery, live stock	5,000
Veterinary building and equipment.....	5,000
Total.....	<u>\$12,500</u>

#### FARMERS' INSTITUTE

The Farmers' Institute is the adult Farmers' school. It is the outgrowth of extension of public meetings held by agricultural societies. In any community the aggregate of successful experience is large, and the farmers' Institute brings the farmers together for the mutual interchange of ideas.

In the University of Arkansas there are in the agricultural department and in the Experiment Station a number of expert scientists who have devoted their lives to the study of the scientific branches relating to agriculture. Among them available for Farmers' Institute work are the Director of the Experiment Station, the Horticulturist, the Chemist, the Veterinarian, the Entomologist, the Botanist, the Professor of Agriculture, and others. These gentlemen are prepared to deliver practical addresses on Fertilizers, Drinking Waters, Spraying Fruit Trees, Insect Pests, Swine Plague, Texas Fever, Care and Selection of Beef Breeds, Tuberculosis, Fungous and Parasitic Troubles, Boll Rot, Good Roads, Improvement of



Country Homes, Industrial Education, and many other subjects of current interest.

The University of Arkansas is quite willing to send out the lecturers, if a state appropriation is made to pay their traveling expenses. The lecturers will not be given a dollar of extra compensation for their work.

The following statistics show the annual appropriations made in some other states for Farmers' Institutes. With three exceptions, every state in the Union is making an effort to reach the farmers by means of Institutes.

STATE	ANNUAL APPROPRIATION
Alabama.....	\$ 3,000.00
Delaware.....	600.00
Illinois.....	10,000.00
Indiana.....	5,000.00
Kentucky.....	1,000.00
Maine.....	3,000.00
Maryland.....	3,000.00
Minnesota.....	13,000.00
Michigan.....	5,500.00
Mississippi.....	1,000.00
Missouri.....	3,000.00
New Jersey.....	2,000.00
New York.....	20,000.00
North Dakota.....	500.00
Ohio.....	8,173.36
Pennsylvania.....	7,000.00
South Carolina.....	1,500.00
South Dakota.....	2,000.00
Texas.....	500.00
Vermont.....	2,500.00
Virginia.....	Variable
West Virginia.....	2,500.00
Wisconsin.....	12,000.00

To hold Farmers' Institute for the next two years, we ask for three thousand dollars (\$3,000) to pay the traveling expenses of the lecturers.

STATE ENTOMOLOGIST

On account of Arkansas having no entomolog-

ical protection, nurserymen are dumping diseased trees into the state. The San Jose scale is spreading, and, unless some measures are taken promptly to protect the fruit growers, this important industry, which adds so much to the wealth and prosperity of the state, will be ruined.

We recommend that our college entomologist be given an assistant, and that he be empowered by law to enforce such legislation as may be devised. It should be the duty of the entomologist to look not only after the fruit interests, but after all crops affected by insect pests.

In most states having agricultural colleges the entomologist is connected with the college, and this arrangement has been found satisfactory and economical. An assistant entomologist, to work under the general direction of the college entomologist, can be employed for \$1,200.00 per annum, and he should have \$500.00 a year for traveling expenses. We therefore recommend an appropriation of \$3,400.00 for the next two years.

#### VETERINARY INSPECTION

The Veterinarian connected with the Experiment Station receives frequent requests to visit communities, to investigate and check outbreaks of contagious animal diseases, such as glanders, Texas fever, swine plague, charbon, etc. The Experiment Station funds cannot be used under the law to make these examinations. The Veterinarian would be able to respond to many of the important calls, if a traveling fund was provided. The identification of disease and recommendations for prevention or limitation would result in great benefit to the farmers and stock raisers of the state. We recommend an appropriation of one thousand dollars (\$1,000) for traveling expenses of the Veterinarian.

#### FERTILIZER LAW

Your attention is respectfully called to the present commercial fertilizer law enacted several years ago. This law does not provide proper pro-

tection for the farmers using commercial manures. Under the present system no inspector is sent out to collect samples. The samples are sent in by the manufacturers, and we therefore have no assurance that the goods put on the market are in all cases the same as the samples sent out by the dealers. The farmers cannot get proper protection unless an inspector makes the rounds of the state to secure the samples from the cars and depots. We think, too, that the present plan of paying the chemist a fee which does not come to the college, but which is in the nature of a perquisite, will in the long run prove unsatisfactory. This work could be done by the Experiment Station without cost, and the result should be published from time to time in Experiment Station bulletins, so that the farmers will know just what analysis have been made and what the results of these analysis are. Under the present system the analysis are not published by the chemist, and the farmers have no means of learning which brands are deficient.

In most of the states where fertilizers are used in considerable quantity an inspection fee has been charged the manufacturer for this work, and it has been found that such tax more than pays the cost of the inspector's tags, the inspector, and the analyzing. In South Carolina last year the receipts from the inspection tax of twenty-five cents a ton amounted to eighty-five thousand dollars. While Arkansas does not use a great quantity of commercial fertilizers, the use of them is gradually growing, and we should provide at once some protection for the farmers.

#### UNIVERSITY SUMMER SCHOOL

Recognizing the need of well trained teachers for the public schools of Arkansas, the University of Arkansas has decided to establish a summer school for the benefit of the teachers. This summer school is intended primarily for the teachers of the state who have not had the opportunity of securing a college education. Most of these teachers are ambitious. They are not satisfied with their

present attainments. They want to improve themselves, but, in the absence of summer schools, they have not heretofore had the opportunity. We think that the university summer school, conducted along conservative lines, is capable of doing much for the ambitious teacher.

The University Summer School will give instruction in Psychology, Organization, Management, Methodology, and the various academic branches, such as Latin, Mathematics, English, Sciences, etc. It has been decided by the Board of Trustees that the faculty of the University of Arkansas may be called upon to work in the summer without extra compensation. In most colleges where summer work is demanded, the teachers are paid extra. There is such an imperative need, however, for the summer school in the state of Arkansas, that it has been thought best to ask the University professors to make some self sacrifice to establish the summer school.

The University of Arkansas is logically and naturally the place for the summer school for teachers. Fayetteville has a genial summer climate, as it is located in the heart of the Ozark Mountains, having an elevation of 1,500 feet above the sea-level. Many teachers in the lower part of the state would welcome an opportunity to spend a part of their summer in the mountains.

The University has also good laboratories and equipment and class rooms ready for use. In modern systems of instruction it is necessary to have laboratories for good work. Students learn to do by doing. The laboratory appeals to the hand and the eye; students learn the why of a thing and the how. No other institution in Arkansas is so well equipped with laboratory facilities as the University. It would not be practicable to take these things away from the University.

In case no appropriation is made for the Summer School, we intend to do the best we can. It is not likely, however, that the Summer School will accomplish much without some funds. Money is needed to get a few lecturers from other states to



supplement the faculty force. Money is needed to advertise the school and to prepare the dormitory, so that cheap board can be provided for the visiting teachers.

We recommend an appropriation of three thousand dollars (\$3,000.00) for this purpose.

#### GYMNASIUM

We respectfully invite your attention to the great need of a gymnasium in the University. In some quarters a gymnasium is looked upon as a modern fad. As a matter of fact, the modern development of athletics in modern colleges is but a revival of an ancient practice. It was the fundamental idea in the system of the ancient Greeks. Athletics may be regarded as an integral part of modern college life. Intercollegiate games, such as foot-ball, base-ball, etc., do not take the place of a gymnasium. Only a few boys play in the intercollegiate contests. The object of a gymnasium is to provide a graduated series of exercises to develop the body, to produce strong and graceful men. Such exercises, wisely controlled by a competent director, will bring out better results in the class room, because a good physical constitution is usually the basis of a strong mind. A gymnasium put into practice the Roman ideal of a strong mind in a strong body. A gymnasium saves a doctor's bill. Even in West Point where so much attention is given to military exercise, it has been found necessary to equip a good gymnasium. It should be kept in mind, too, that whatever adds to the attractiveness of the institution will help to increase its patronage. An organ may not be essential to church worship, but good music will draw people to church, and when they are there an opportunity is offered for the minister to reach them. A good gymnasium in a similar way will draw young men to college. A fairly good working gymnasium can be erected for three thousand dollars. The University of Arkansas is one of the few state universities without a



gymnasium. We recommend the establishment of one.

#### ART DEPARTMENT

At the last session of the Legislature, no appropriation was made for Art, and we were compelled to abolish the department. This year so many students wanted instruction in Art, that a competent teacher was secured to open a class for the tuition fees alone. We do not ask for any salary appropriation for this teacher, but in order to supply suitable models and equipment for the Art room for the use of the students, we ask an appropriation of seven hundred dollars.

#### NEWS-LETTER

The University has been sending out twice a month a publication known as the News-Letter. The object is to give the public authentic news from the University. The newspapers have been quoting liberally from this publication. It serves a medium to keep the teachers, the county examiners, the legislature, and others, informed as to the condition and progress of the University. If continued and expanded, it will accomplish much good. We recommend that six hundred and fifty dollars be appropriated for this publication.

#### WHAT OTHER STATES ARE DOING

Is Arkansas too poor to spend more money on higher education? It is unreasonable to ask taxpayers to spend money beyond their means. It is unfair to compare the expenditures in this state with the rich northern and western states. Arkansas had a disastrous experience during the period of Reconstruction. Let us therefore compare the educational conditions of Arkansas with other southern states in which similar economic conditions prevail.

#### SOUTH CAROLINA AND ARKANSAS COMPARED

The state of South Carolina has only 463,000 whites, as compared with 815,752 whites in

Arkansas. South Carolina has an area of 30,170 square miles, as compared with 53,045 square miles in Arkansas. The state of South Carolina suffered much more from the late war and from the horrors of Reconstruction than did Arkansas. Let us now compare the states in the matter of higher education. In South Carolina the legislature meets annually. The appropriations last year in South Carolina were as follows :

For Agricultural and Mechanical College.....	\$105,040.03
For Literary and Classical College.....	33,400.00
For Military College.....	41,366.66
For Girls' College.....	60,463.33
For Negro College.....	29,433.11
Total.....	<hr/> \$269,643.13

#### WHAT ARKANSAS GIVES

At the last meeting of the legislature the following appropriations were made for two years:

University of Arkansas.....	\$ 91,570.70
Branch Normal School for Negroes...	7,570.00
Morrill Fund.....	25,000.00
Interest on Fayetteville Bonds.....	20,800.00
Total.....	<hr/> \$145,120.00

It will be observed that the amount given, \$145,120.00, is for two years. This is equivalent to an annual appropriation of \$72,560. In other words, South Carolina gives annually for higher education \$269,649.13, and Arkansas gives annually \$72,560.00. South Carolina gives more than three times as much as Arkansas.

#### MISSISSIPPI AND ARKANSAS COMPARED

Let us now compare Arkansas with the neighboring state of Mississippi. Mississippi has 544,-851 whites, as compared with 815,752 whites in Arkansas. She has an area of 46,340 square

miles, as compared with 53,340 square miles in Arkansas. Mississippi suffered, as we did, from the war and the subsequent period of reconstruction. The total taxable value of property in Mississippi is \$200,000,000. Last year Mississippi gave her public schools two and one half million dollars, and to her institutions for higher education as follows: (The appropriations named are for two years, as the legislature meets biennially.)

For the University.....	\$188,107.58
For Agriculture and Mechanical College.....	287,304.46
For Girls' College.....	114,020.00
For Negro Schools.....	56,250.00
Total.....	<u>\$645,681.00</u>

Arkansas appropriated \$145,120.00 for two years compared with \$545,881.99 appropriated by Mississippi.

#### GENERAL SUMMARY

In conclusion we herewith present to your honorable body a general summary of our needs for the next two years. The items are given in detail in the reports of the professors. The total amount asked for is \$256,136.76, which is equivalent to \$128,068.38 per annum.

#### REPORT OF EXPERIMENT STATION.

Since the last report, two years ago, experiments have been made and published in the following bulletins:

No. 62: Wheat Experiments, by C. L. Newman.

No. 63: The Relative Susceptibility of the Domestic Animal to the Contagia of Human and Bovine Tuberculosis, by R. R. Dinwiddie.

No. 64: Notes on Celery, by Earnest Walker.

No. 65: Pig Feeding Experiments, Fattening value of certain foods grazed by pigs; Feeding Experiments to harden soft pork. R. L. Bennett.

No. 66: Oat Experiments. C. L. Newman.

No. 67: Investigation of Swine Diseases in Arkansas. R. R. Dinwiddie.

No. 68: Soil Improvement and Forage Experiments. R. L. Bennett.

No. 69: Some Muskmelon Experiments. Ernest Walker.

No. 70: Cowpea Experiments. C. L. Newman.

No. 71: Why Apple Trees Fail. Ernest Walker.

No. 72: Sweet Potato Experiments. C. L. Newman.

No. 73: Pork Production Experiments and Hog Ranching. R. L. Bennett.

No. 74: Phosphate Rocks of Arkansas. John C. Branner, Ph.D., John F. Newsom, Ph.D., R. L. Bennett, M.S.

No. 75: Alfalfa. R. L. Bennett.

The subject of the foregoing bulletins were all results of actual experiments, and the same have been received by the farmers of the state with express satisfaction. Each of these bulletins were issued in editions of 7,000 copies, except the Phosphate Bulletin, and mailed free to all applicants and to the regular mailing list, which contains more than six thousand names.

The newspapers within the state, and the agricultural press in other states, have made favorable editorial reviews of these bulletins. Fourteen bulletins were issued during the past two years, or seven for each year, which is three more per annum than is required by the federal law which supports the Station.

#### WHAT THE FARMERS THINK OF THE STATION

Notices were sent recently to the several thousand farmers on the Station's permanent mailing list to the effect that the Station would send its bulletins to all progressive farmers in the state desiring the same. In response to this letter there has been received over twenty thousand new names sent in by those who have been receiving the bulletins.

This large return of names is overwhelming evidence that the Station's work has been satis-



factory to the several thousand farmers who have been receiving the bulletins, otherwise they would not have sent in the names of their acquaintances nor endorsed on a large per cent of the letters their appreciation and high estimation of the Station's work.

#### SALARY ACCOUNT

At the last session of the Legislature we requested your honorable body to appropriate \$53,200.00 to pay the salaries of the teachers for the ensuing two years. This request was not made with the anticipation of any reduction; it was a careful estimate based upon the actual needs of the institution. The Legislature, however, reduced the appropriation from \$53,200.00 to \$40,000.00. As a consequence we had to dispense with the services of four teachers. On account of the growth of the University, we need a larger salary fund.

The institution opened in September with one hundred more students than for the corresponding period last year. In the preparatory department there are three hundred and fifty students.

Your attention is invited to the detailed report of the principal of the preparatory department, showing the congested condition of affairs. Unless money is provided for instructors, we cannot pretend to give the efficient instruction that ought to be given in a state university of this kind. We therefore urgently recommend your honorable body to appropriate this year \$55,000.00, in order that we may meet the actual needs and demands of the institution by having a sufficient number of teachers to insure proper instruction.

#### GENERAL SUMMARY OF NEEDS

(Items given in reports from professors)

New building for Mechanic Arts, Civil Engineering and Electrical Engineering.....	\$50,000.00
Dormitory for young ladies, including equipment, heating and lighting, and maintenance for two years.....	50,000.00



Insurance.....	2,000.00
Night Watchman.....	730.00
Dairy building, cattle equipments.....	5,000.00
Veterinary building and equipments.....	5,000.00
Additional land.....	2,500.00
Farmers' Institutes.....	3,000.00
State entomologist's salary two years	2,400.00
Traveling expenses for same.....	1,000.00
Traveling expenses for veterinarian.....	1,000.00
University Summer School.....	3,000.00
Gymnasium.....	3,000.00
Models and equipment for art students...	700.00
Publication University News-Letter.....	680.00
Maintenance of Agricultural Department	4,000.00
Maintenance of Horticultural Department	4,000.00
Maintenance of Physics and Chemistry Department.....	2,862.00
Maintenance of Electrical Engineering Department.....	5,305.00
Maintenance of Civil Engineering Department.....	2,808.00
Maintenance of Geology and Mineralogy Department.....	750.00
Maintenance of Museum Department....	1,000.00
Maintenance of Biology Department....	961.11
Maintenance of Philosophy and Peda- gogy Department.....	1,250.00
Maintenance of Economics and Soci- ology Department.....	200.00
Maintenance of History Department....	850.00
Maintenance of Ancient Languages.....	300.00
Maintenance of English and Modern Languages.....	400.00
Maintenance of Mathematics and As- tronomy Department.....	200.00
Maintenance of Military Department....	900.00
Maintenance of Library Department....	2,000.00
For Exhibit at St. Louis Fair.....	4,385.00
Installing heating plant in boys' dormi- tory.....	9,876.65
Fuel for two years for College building, shops, and dormitories.....	4,000.000
Additional Fireman.....	315.00

Establishment of Department	Mining	
Engineering .....		1,500.00
Student labor.....		7,000.00
Improvement of Campus.....		1,500.00
Current Repairs and Improvements.....		3,000.00
Infirmary for boys.....		350.00
Janitors Service for all buildings.....		2,000.00
Plumbing.....		500.00
Stationery and Printing.....		1,500.00
Postage.....		500.00
Trustee meetings.....		1,200.00
Water.....		1,200.00
Secretary to President.....		960.00
Department of Elocution and Physical		
Culture.....		1,500.00
Salaries for two years.....		55,000.00
Iron safe.....		225.00
Preparatory Department.....		629.00
Annual.....		200.00
Salary Matron and repairs to Dormi-		
tory.....		1,000.00
Total.....		256,136.76

Respectfully Submitted

JEFFERSON DAVIS, Chairman of the Board  
H. N. PHARR,  
W. H. LANGFORD,  
C. C. HAMBY,  
H. STROUP,  
J. C. MITCHELL,  
V. Y. COOK,

# REPORT OF PRESIDENT BUCHANNAN, 1900-1 and 1901-2.

*To the Board of Trustees of the University of Arkansas.*

GENTLEMEN:--

I have the honor to submit the following report covering the years 1900-1 and 1901-2

## GENERAL STATEMENT

It is gratifying to be able to make a favorable report of the general condition of the university and of its progress during the current two years. No material additions have been made to the

courses of study, no new departments have been introduced, but the work in all courses and departments has been well sustained. The biennium has been characterized by fidelity and efficiency on the part of the teaching force and by good order and devotion to duty on the part of the great majority of the student body.

#### FACULTY

Last year the work of the University suffered no interruption from sickness among the members of the Faculty. Such has not been the case the present year. Dr. A. F. Lewis, Professor of History and Political Science, has been absent since the first three or four weeks of the session. Returning from vacation in impaired health and finding himself growing worse instead of better he left for treatment in a Sanitarium in Louisville, Kentucky. A letter from his physician advised that it was not safe for him to resume school work during the year. A recent letter from him states that he is not an applicant for re-election. His classes were temporarily met by other professors until Prof. A. C. Barrows was engaged to take charge of the department and has continued throughout the year.

On the 9th of October I was attacked by a sudden illness and confined at home under the care of physicians. Dr. A. E. Menke, as being the senior Professor and Acting President in my absence, promptly assumed the duties of the President's office and thus prevented any break in the administrative work of the school. During my absence the work was judiciously and efficiently carried on. For the kindly sympathy tendered me and the assistance so generously offered and willingly rendered whenever needed by all my Colleagues of the Faculty I desire to record my most grateful acknowledgements. Among the other members of the Faculty there have been a few instances of temporary indisposition but no severe illness.

Within the first of the current two years the following changes in the teaching force and ad-

ditions thereto have been made: Dr. W. A. Read succeeded Dr. E. T. Bynum, as Professor of English and Modern Languages; Dr. C. Searles succeeded Dr. Read as Associate Professor in the same department; Miss Clara Earle, instructor in the same department, withdrew for the purpose of pursuing a course of study in Europe, and was succeeded by Miss A. B. Dupree; Dr. W. B. Bentley, Associate Professor of Chemistry and Physics, resigned to accept the chair of Chemistry in the Ohio University, and was succeeded by Professor P. H. Walker; Captain Geo. K. Spencer of the U. S. Army, was on request detailed by the War Department as Professor of Military Science and Tactics and Commandant; Prof. W. A. Crawford, Principal of the Preparatory Department, retiring from his position to complete a course of study, was succeeded by Prof. G. A. Cole as Acting Principal; Prof. Mack Martin, Assistant Superintendent of Mechanic arts, was granted leave of absence for a year, and Mr. J. L. Ross was employed as Instructor in Machine Shops and Forge; Mr. W. A. Treadway, an alumnus of the University, was appointed as Assistant Instructor in Electrical Engineering; Messrs. V. H. Cochrane, H. Hudgins, and C. L. Sadler, of the Senior class, were appointed assistant instructors in Civil Engineering; Prof. and Mrs. Busch in January, 1901, resigned their position in the department of Music, and Miss Anna Edmiston was placed in charge for the remainder of the year; Mrs. Jenny D. Rice Director of the Art Department being absent during the year, her place was filled by Miss Christine S. Bredin; Miss Joebelle Holcomb was elected to succeed Miss Cener Holcomb as instructor in Latin and Mathematics in the Preparatory Department; Miss Naomi J. Williams was elected instructor in Latin and History in the same department.

Within the last year fewer changes occurred. Dr. J. W. Carr, as Associate Professor of English and Modern Languages, was elected to succeed Dr. Searles who resigned to accept a position in Stanford University; Prof. J. W. Kuykendall was



elected Principal of the Preparatory Department; Prof. A. T. Graber was elected Musical Director; Mrs. Laura Anderson, Director of the Vocal Department, succeeding Miss Gertrude Crawford; Mr. H. Hudgins, an alumnus, was elected instructor in Civil Engineering; Mrs. Neil Caruthers was elected Librarian succeeding Miss Ada Pace. The Art Department and the position of Pomologist were discontinued by legislative action. The new appointees have discharged their duties with fidelity and efficiency, and the work in all departments has been carried forward with ability and skill. A spirit of harmony has prevailed in the councils and official relations of the Faculty.

It is understood that the following chairs will become vacant at the close of the present session: Economics and Sociology, English and Modern Languages, Chemistry and Physics, Philosophy and Pedagogy, and History.

#### ATTENDANCE OF STUDENTS

The number of students in attendance this year is 608, last year 642; Average attendance for the two years 624; Average attendance for the preceeding two years 568.

A comparison of the average number of students in the Collegiate and Preparatory Departments during the three decades since the University was founded reveals not a rapid but a substantial and healthy growth. For the year 1872-3 the record shows only a Freshman class.

	1873-1882	1883-1892	1893-1902
Collegiate.....	120	93	229
Preparatory.....	246	349	340
Total.....	346	442	569
Percentage of Collegiate....	36	21	40

These figures show the yearly average of the total attendance to be for the second decade above the



first 96, and for the last above the first and second 223 and 127. Collegiate students the second decade falls below the first 27, but the last goes above the first and second 109 and 136, being an increase of 90 per cent and 138 per cent. There has also been a proportionate increase in the number of counties represented in the University, thus showing a wider extension of its prestige through the state

The number of students attending school does not prove its worth, yet it is a fact that large numbers are accepted as indicating larger merit. But there are other factors in the problem of patronage. First, the location of an institution; secondly, the amount of money it can command for buildings, library, laboratory, and other equipments and running expenses; thirdly, the economic and educational conditions which prevail; lastly, the number of inhabitants in the state, since in the case of a state university the state to which it belongs furnishes the bulk of the patronage.

In the number of students pursuing advanced studies in our University our state is not in the front rank, but in the total number of matriculates it compares favorably with other state Universities, especially in the south. In many institutions are largely patronized professional departments such as law, medicine, dentistry, pharmacy, etc., and in some of them are short courses in agriculture for a few weeks in winter, and normal schools for a few weeks in summer. Thus the summation gives a large figure for total number in attendance, whereas we are apt to think only of the academic students in our University at Fayetteville. Including our affiliated medical and law schools the average for the current two years is 882, and including the Branch Normal School which is a part of the University organization it is 1125.

#### INCREASE OF ATTENDANCE

In view of literary, scientific, and technical education which the University is giving, and it is pre-

pared to give to larger numbers, an important question is how to increase its patronage and thus extend the sphere of its usefulness more widely. This question is especially important as pertaining to the advanced departments of the school.

It is estimated that 85 per cent of the people of Arkansas do not live within reach of schools which can prepare for admission to our Freshman class. Thus of every seven students desiring such preparation six must seek it away from home. And as the University offers free tuition and other important advantages not offered elsewhere a goodly number enter the Preparatory Department. In brief, the field of patronage can furnish six for the Preparatory to one for the Collegiate.

Like condition exists in other states. Says the annual report of the President of the University of Tennessee, "It is believed that the University (of Tenn.) has advanced as much in standard and increased as much in numbers as will be possible until we have more and better schools. Few of our youths have the opportunity to prepare for college. Secondary schools exist in very few rural districts and there are no public high schools outside of towns." The report further says: "We are trying here as in most Southern states to build up a great university upon the foundation of imperfect system of common schools with almost no high schools." These quotations not inaccurately describe conditions in our state. The greatest deficiency in our systems of public education is in secondary schools. Any plan for increasing the number of good high schools in our state whether by state legislation or otherwise, will tend to increase the numbers in the higher classes in the University.

#### ACCREDITED SCHOOLS

Some ten years ago a plan was adopted by the Faculty of accrediting schools to the University. In 1893 there were only two, now there are twenty-six.

The plan has had the approval of the Board. But it has not inured to the benefit of the Univer-

sity or to the schools as largely as was desired or expected. Sufficient energy has not been expended on one side, and as a sequence or it may be a consequence, no very active spirit of co-operation has been manifested on the other side. A more systematic, vigorous and persistent effort ought to be made. Said President Hadley of Yale, in his inaugural address: "To the idea of co-operation between universities and schools whereby each shall arrange its teachings with reference to the other's needs, I am fully and absolutely committed and purpose to do all I can to further it. A university fulfills its true function only when it thus seeks and gives aid outside of itself."

This University has endeavored to cultivate friendly and helpful relations with our schools, but larger results could be obtained if a more systematic method were adopted and vigorously pursued. But to visit the schools, inspect the course of study and methods of teaching, confer with the teachers and school boards, and make educational addresses would occupy much of the time of one man. In some states a special officer, known as school inspector, or examiner, or field agent, is employed and paid out of the University funds to do this work. This would not be practicable here. But the President of the university could do much of this work if he were relieved of a part of his administrative duties. The Professors could assist, but not very largely, during the session without neglecting their classes. The State Superintendent could be an effective factor in the problem could he see it in the line of his duty. But whatever be the agency employed, it is urgently recommended that provision be made for a more systematic and active co-operation on the part of the University in the direction of enlarging the secondary school work of the state.

#### CO-EDUCATION

It is too late to discuss the expediency of co-education. It already exists in nearly three hundred colleges and universities of our country. Its progress has

been phenomenal considering the opposition it encountered. It was a somewhat radical innovation, and opinions varied between warm approval and avowed hostility. Criticism has become quiescent if not acquiescent, though there are doubters. If the definition be correct that "Education is a preparation for complete living," there is reason to doubt whether the same kind of advanced education is best for both sexes, in view of the fact that they are to occupy normally different spheres in life. But that women in co-educational schools have proved inferior to men in ability to master the higher studies or power to endure prolonged application, is not sustained by the reports from these schools, neither does the association of the sexes, under proper regulations, prove harmful in college or university life. But maintenance of such regulations materially depends on existing conditions as to the home life of the student. This brings up the subject of a

#### WOMAN'S BUILDING

If the University is to continue to be a co-educational institution, as it doubtless is, and young ladies, other than residents are to be invited to attend it, there is imperative need of a building which will serve as a suitable home for them. This need is more pressing than ever before. It has come to be a difficult matter for young ladies to secure eligible homes in the town, not that such homes are scarce, but because few of them are open to boarders. The lack of satisfactory arrangements for boarding young ladies and for exercising the proper care and oversight of them in their home life while at school largely accounts for the limited number of such students in attendance of the University. A woman's building or dormitory would furnish the needed condition. Such a building properly constructed and equipped, and in charge of a cultured and judicious lady superintendent who would advise and supervise the girls in matters pertaining to health, their work, their social relations and diversions, would be a center of influence for good, and would attract large numbers to the school. Besides these advantages board



would be furnished at cost and therefore at cheaper rates than are now obtainable.

Another point demands attention.

The idea has grown up in comparatively recent years that women are entitled to equal advantages with men in the matter of higher education. Co-education is the outgrowth of this idea. But the advantages are not equal here. Five technical courses maintained at heavy expense are for men. The military department is for men. The two dormitories furnishing rooms without rent and board at cost are for men. The student labor fund goes to men. The physical culture department as now organized is for women only. The general literary and scientific courses are open to both sexes on equal terms.

In the light of the facts bearing on the case I recommend that the Legislature be urged to make an appropriation sufficient to erect a woman's building for the accommodation of our women students.

#### DOMESTIC SCIENCE

I venture to call the attention of the Board to the question of introducing a department of Domestic Science. Is it expedient, and is it practical? No reason appears why it should not be expedient if properly organized and conducted; want of means may for the present make it impracticable. This department is often sneeringly referred to as a "cooking school," and set down as a fad. A department of instruction that can inculcate a knowledge of household arts and of the sciences which underlie them, and thus promote the comfort, well-being and happiness of home life, and also add to the beauty and attractiveness of the home itself and its surroundings, is not to be regarded as unimportant. It is no discredit to the higher departments of learning to be correlated with a department of domestic science. Advanced learning and higher culture lose nothing of their dignity in being applied to the useful arts. The study of domestic economics therefore would in no respect lower the standard of woman's education. In fact women are its strongest advocates. It already exists in a number of colleges and universities and



numerous woman's clubs in our towns and cities. Its introduction into this University would be an important step toward equalizing in some measure the practical advantages offered the two sexes.

This subject is presented in connection with that of a woman's building or dormitory because in planning such a building provision could be made at least temporarily for domestic science and also for music.

#### TENURE OF OFFICE

All positions in the University are filled for one year at a time. This custom has prevailed for some years past, but is of doubtful expediency. Its tendency is to beget a feeling of uncertainty and insecurity of tenure of office. In this state of mind positions are sought elsewhere and are readily accepted when accessible if they appear permanent. Thus frequent changes in the teaching force are likely to occur. While such changes are more or less inevitable and at times are necessary, yet, if they are of marked frequency, they tend to create the impression of instability in the affairs of the University and weaken confidence in its success.

Again, an uncertain tenure of office does not favor an identity of the personal interests of professors with those of the University, or promote a spirit of loyalty and devotion to the institution, or encourage the promotion of plans to develop and strengthen departments through consecutive years.

The state of things here noted, however, is not attributable to any action of the Board as at present constituted, but it exists and has existed for some years past. The subject is presented in the hope that it may engage the serious attention of the Board, and that a plan of electing professors and other teachers may be adopted which will insure greater stability and permanence in the affairs of the school.

#### PRESIDENT'S DUTIES

At the beginning of a new administration it is desirable that the powers which the President is to exercise should be defined in at least a general way. In

some schools the President appoints professors, in others he nominates them, in others he is made a member of the Board. Here they are elected, assigned to departments and salaries fixed independently of the President. Hence the official relation between him and them ought at the outset to be as clearly defined as practicable to avoid misunderstanding and friction in the administration. On my accession to the presidency faculty government prevailed. It was continued as being sanctioned by custom and as having at least the tacit approval of the Board. Whether this or a different form of government be maintained, it is but reasonable that the President be invested with powers commensurate with his responsibilities. He should have also the cordial co-operation and active support of his colleagues, without which no administration can be successful.

Again, under present arrangements the President's office is encumbered with too many miscellaneous matters. When the present administration began there was no financial business in his hands. By orders of the Board passed some years ago, it was provided that he disburse the Student Labor Fund, that he be conferred with about all indebtedness to be contracted, and that he approve all bills to be paid. All responsibility for the disbursement of University funds, except fixed salaries and expenses of the Board, rests on him. These and other matters of business could well be attended to by some other man. It is bad economy as well as bad policy that the time of the executive head and highest salaried officer of the institution be so largely consumed in attending the details of business. Relieved of these he could have more time for shaping and directing the policy of the institution, could do a certain amount of teaching work if conditions required it, or could represent the University abroad in the State or elsewhere whenever its interests could be subserved thereby.

#### SUMMER SCHOOL

A bill was passed by our Legislature in 1899 requiring a summer school to be conducted by the Uni-

versity professors, but was vetoed by the Governor. Legislative action is not needed for such purpose. The Board has ample power to inaugurate such an enterprise if deemed expedient. Several questions are suggested. Is it practicable? Would it attract a patronage large enough to justify it? Would it be just to impose vacation work on professors without additional pay? Could funds be had to procure expert help from outside? However these questions may be answered, summer schools are successfully conducted in a number of institutions in other States, and some teachers are going out of our State to attend them. It would seem advisable at least to consider the feasibility of a similar enterprise here. The following conditions favoring it here are better than elsewhere in the State: A fine summer climate, ample rooms in the University buildings, library, illustrative apparatus, boarding halls, a farm to supply vegetables at cheap rates, etc. As there is no other such school of prominence in the State, and as the special work of such school would be the improvement of the teaching force of the State, and thus enlarge the sphere of the University's usefulness, the subject is presented as worthy of the thoughtful attention of the Board.

#### BUILDINGS AND REPAIRS

During the year an additional dormitory or students' hall has been erected. It is built of bricks three stories high, the foundation is of range stone work, and trimmings of dressed limestone. It contains some twenty-five rooms, and among them a commodious dining hall 86 x 36 feet. The entire building is heated by a furnace, lighted by electricity, and supplied with water by the city water works. The liberality of the Legislature in providing for this much-needed and very serviceable addition to our University buildings is greatly appreciated.

The mechanical engineering building has been enlarged by an addition of 40 x 40 feet, foundry raised to two stories, and a new and much better roof placed on the entire building. The building is greatly improved in appearance, capacity and convenience.

The chemical building was enlarged some three years ago by an addition 30 x 50 feet. The foundation of the new part began to sink shortly after the building was completed, causing numerous cracks in the walls. This continued until the building became manifestly unsafe. As a result the south and west walls were taken down, a new foundation built and the walls reconstructed. Furthermore, the north and south walls of the old part of the building were bound together by strong metallic rods as a safeguard against some signs of weakness appearing about the foundation.

Extensive repairs were made on the dormitory known as Buchanan Hall. Besides a large amount of work done on the floors of the building, the ceilings of all the rooms were plastered anew, that on the side walls repaired, and the entire building kalsomined and much of the wood work repaired.

Iron columns have been purchased for the support of the central stairway of the Main building. A stone wall has been built around a part of the campus, and excavations made for its further extension this summer. Considerable other work has been done in the way of minor repairs and improvements.

#### THE LIBRARY

The report of the Librarian will furnish detailed information covering the library. The subject is specially mentioned here to note the satisfactory manner in which it has been kept. The books were rearranged on the shelves during the last vacation, and judicious methods adopted for their safe-keeping, and at the same time rendering them easily accessible. Again, as the collegiate students use the front of the library room for a study hall, their observance of good order under the supervision of the Librarian is worthy of high commendation.

#### THE DORMITORIES

All the rooms in the dormitories were taken at the beginning of the session. In fact the demand was greater than the supply. The new building, however, erected during the present session, increases and greatly



improves the facilities for boarding students. The management has been satisfactory. The cost of board has been somewhat greater than usual because of the advance in the price of supplies. The students formed among themselves, with the approval of the President of the University, a voluntary organization for the maintenance of order in the building, which has been of material service in promoting the end sought.

#### STUDENT LABOR

A resolution of the Board passed some six years ago commits the disbursement of the Student Labor Fund wholly to the President. This fund is designed to assist worthy students of limited means to meet their school expenses. Hence the aim has been to guard two points—one, that the fund go only where needed; the other, that it go for honest and faithful work. Employment is furnished when practicable during the session, and for the past few years during vacation also. Student labor in vacation is more profitable to the University than during the session, because it can be carried on with more system and regularity. All who work in vacation sign a pledge requiring them to forfeit one-third of their wages if they fail to enter the University and remain at least one term. The number of those who have received greater or less amounts of the Student Labor Fund is about 100.

Besides these, twelve have been employed regularly in janitor service and paid out of the Janitor Fund, and some have earned their board in whole or in part by services in the dormitories.

#### ANTI-FRATERNITY LAW

In accordance with the order of the Board, the faculty adopted resolutions to enforce the anti-fraternity law. The law has been substantially complied with. It is understood that the charter of one or more fraternities was surrendered and those of the others, if not surrendered, at least suspended. So far as I am aware no new members have been initiated, no meetings held by the fraternities as such, no unfriendly relations between fraternity and non-fraternity men.



## DEPARTMENT REPORTS

Special reports of the various departments are herewith submitted, including the report of the Treasurer, Librarian, Committee on Buildings and Repairs, Committee on Dormitory, and Director of the Experiment Station. As these contain detailed information as to the conditions, they are commended to the careful attention of the Board.

### WORK OF THE PRESENT ADMINISTRATION

In closing this report I beg leave to submit a brief resume of what has been done since the present administration began.

The grounds have been improved, by grading and laying pavement in front of the main building, constructing walks, transplanting some 200 shade trees, and building stone wall partly around the campus. A number of rooms in the basement of the main building have been floored, plastered, ceiled, supplied with suitable equipment and brought into use as quarters for the electrical and civil engineering departments, and as store room and band room for the military department.

The buildings have been supplied with water from the city water works, and a system of sewers constructed. The shops and boiler house, which, with their contents, were destroyed by fire in April, 1895, have been replaced by a much more commodious and substantial brick structure and refurnished with a larger outfit of tools and machinery; the chemical building has been enlarged by an addition of 30 x 50 feet; Buchanan Hall has undergone important repairs; a new dormitory erected and the old wooden dormitory removed; two new office buildings and a green-house have been added to the Experiment Station and the grounds adjacent thereto improved by turfing, ornamental plants and granetoid pavements; seed and tool house and a handsome cottage residence have been erected on the farm, two miles of woven wire fencing put up, and portions of the farm not previously in use brought into cultivation.

The Library has received material additions in works of general literature, and especially in standard works for reference, books for special use in the various departments, and in current periodical literature.

The Laboratory equipments in the various scientific and technical departments have been greatly enlarged, the museum of natural history supplied with almost a new outfit, and a large hall set apart and suitably furnished for a girls' gymnasium.

The chair of Economics and Sociology has been established, the chair of Philosophy and Pedagogy organized into a new department, and history, geology and mineralogy, civil engineering, and electrical engineering made independent departments.

The work of instruction has been characterized by ability and efficiency on the part of the teachers. The conduct of the student body has as a rule been exceptionally good. There has been a gratifying increase in the total attendance of students, while the numbers in the collegiate department have more than doubled. The financial condition of the institution is entirely sound, as the expenditure of its funds has been uniformly kept within its available income.

Such is a brief record of the principal work which the means available and the agencies employed have enabled the University to accomplish in the last nine years. While it shows no phenomenal expansion, such as some institutions with larger resources in more populous States have experienced, yet it does show a substantial growth in the past, a sound and healthy condition in the present, and gives encouraging prospects of a larger development in the future.

But reasons personal to myself urge me to decline to continue longer in the presidency. Of this purpose I gave formal notice some time ago to the President of the Board. In retiring from office I desire to express my grateful recognition of the honor done me in committing to my hands so responsible a trust as the presidency of the State University. I desire also to tender to the present Board my sincere thanks for the generous kindness and cordial good-will shown me.

May I express the hope also that under the guidance of an all-wise Providence, fostering care of the State, and the judicious supervision of the Board of Trustees a career of larger usefulness and prosperity awaits the University of Arkansas.

Respectfully submitted,  
(Signed)

J. L. BUCHANAN.  
President.

## ITEMIZED STATEMENTS FROM PROFESSORS

### AGRICULTURAL DEPARTMENT.

Appropriation needed for 1903-1905.

Labor, running and incidental ex-.....		
penses.....	\$1,000	00
Engine, engine house, feed cutter,.....		
feed mill shredder etc.....	1,000	00
Propagating and seed testing house.....	750	00
Guttering barn; building cistern and.....		
water supply.....	300	00
Cementing stable and barn floors.....	300	00
Additional for poultry.....	250	00
Improved live stock.....	400	00
Total.....	\$4,000	00

C. L. NEWMAN  
Professor of Agriculture

### DEPARTMENT OF HORTICULTURE.

Appropriation needed for 1903-1905.

For maintenance, improvement and development for the two years beginning June 1, 1903, the amounts mentioned below will be needed.

For storage room (field).....	\$	300	00
Implements and tools.....		150	00
Seeds, plants and supplies.....		150	00
Freight and Express.....		75	00
Work room for practical instruction.....	1,000		00
Fencing.....		75	00
Dwelling for foreman (field).....	1,000		00
Reference Books.....		50	00
Labor, improvements and incidental expenses,.....	1,200		00
	\$4,000		00

Very respectfully,  
ERNEST WALKER,  
Professor of Horticulture.

# DEPARTMENT OF CHEMISTRY AND PHYSICS

## Appropriation needed for 1903-1905 IMPROVEMENT TO BUILDING

System of Drainage, twenty soapstone sinks and overhauling and plumbing..	\$250 00
Fuming room and Chemical Hoods.....	100 00
Enlargement of Quantative Laboratory	25 00
Lecture room chairs and laboratory stools	150 00
Enlargement of Physical Lecture Room..	50 00
Deepening and Cementing of Basement....	50 00
Painting and Papering of the rooms.....	150 00
	<hr/>
	\$775 00

## ADDITIONAL APPARATUS.

Improved Chemical Apparatus for placing in 100 beginners' desks.....	\$250 00
Improved Physical Apparatus for same....	150 00
System of 150 pad-books for desks.....	37 50
Storage battery, assay furnace and electro- chemical apparatus.....	150 00
	<hr/>
	\$587 50

Half of Janitor's Wages 1903.....	\$ 65 00
Half of Janitor's Wages 1904.....	65 00
Chemicals 1903.....	200 00
Chemicals 1904.....	200 00
Chemical Apparatus 1903.....	200 00
Chemical Apparatus 1904.....	200 00
Physical Appartus 1903.....	200 00
Physical Apparatus 1904.....	200 00
Miscellaneous expenses 1903.....	85 00
Miscellaneous expenses 1904.....	85 00
	<hr/>
	\$1,500 00
	<hr/>
Total .....	\$2,862 00

A. M. MUCKENFUSS,  
Professor of Chemistry.



## ELECTRICAL ENGINEERING DEPARTMENT

Appropriation needed for 1903-1905.

### DYNAMO LABRATORY

55 Cell Storage Battery.....	\$500 00
Induction Alternator.....	500 00
2 Induction Motors.....	200 00
2 railway Motors.....	400 00
1 Railway Car Controller.....	75 00
Transmission Dynamometer.....	300 00
Permeammeter.....	100 00
Kelvin Static Voltmeter.....	85 00
Carbon Dynamo Rheostat and German Silver Rheostat.....	150 00
Storage Battery Switchboard.....	50 00
Tools, wire, lamps and supplies.....	200 00
	<hr/>
	\$2,560 00

### LECTURE ROOM

Books, Periodicals, Blanks and Stationery	200 00
Models, Furniture and Repairs.....	300 00
	<hr/>
	500 00

## ELECTRICAL ENGINEERING DEPARTMENT

Appropriation needed for 1903-1905

### PHOTOMETIC AND HIGH TENSION TESTING LABRATORY

Standards of light and Lummer-Brood- hun Photometer accessories.....	100 00
Portable Photometer.....	200 00
International Standards of Low and High resistance.....	85 00
Adjustable Carbon Rheostat.....	50 00
Standard Cylindrical Bridge.....	130 00
10 Micro-Farad Condenser.....	55 00
D'Arsonval Galvanometer.....	50 00
Cable Fault testing Instrument.....	100 00
Freight and drayage.....	75 00
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	\$845 00

High Tension Switch-board and accessories.....	400 00
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	\$1,245 00
Salary for one year for instrument maker	1,000 00
	<hr/>
Total .....	\$5,305 00

W. N. GLADSON,  
Professor of Electrical Engineering.

## CIVIL ENGINEERING DEPARTMENT

### Appropriation needed for 1903-1905

One transit.....	\$ 235 00
One Y level.....	140 00
Two level rods.....	35 00
Five poles.....	17 00
One barometer.....	60 00
Two chains, at \$10 .....	20 00
One surveying compass.....	60 00
One plane table.....	40 00
One mining compass .....	12 00
Repairs.....	100 00
Expenses for Surveying Camp for two years.....	150 00

### CEMENT LABORATORY

One abrasion cylinder for testing stone, brick, etc .....	75 00
One apparatus for hot tests for cement.	40 00
One oven for cement specimens.....	42 50
One dozen cement molds, at \$4.....	48 00
Two tampers, at \$3.....	6 00
One screw press for forming briquettes..	80 00
One microscope.....	50 00
Supplies, cement and sand.....	25 00

### DRAWING ROOM

Twenty drawing desks, at \$10.....	200 00
Ten lockers, at \$8.....	80 00
One blue print frame, glass and carriage	45 00

Drawing instruments.....	20 00
One precision pantograph.....	100 00
One case for filing drawings.....	60 00
Fifteen stools for drawing room, at \$1.50 .....	22 50
Books, periodicals, binding .....	250 00
Book case.....	25 00
3 H. P. electric motor, shafting, etc....	125 00
Stone grinder.....	125 00
Piping hydraulic laboratory.....	100 00
Three water meters.....	60 00
One hydraulic ram.....	160 00
One model bridge joint.....	70 00
Models for oblique arches .....	80 00
Expressage, freight and other incident- als.....	100 00
Total .....	<u>\$2,808 00</u>

J. J. KNOCH,  
Professor Civil Engineering.

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## DEPARTMENT OF GEOLOGY AND MIN- ERALOGY

Appropriation needed for 1903-1905

### GEOLOGY AND MINERALOGY

For the purchase of specimens, books,  
maintenance and equipment.....\$ 750 00

### MUSEUM

For the purchase of cases and museum  
material, freight and incidentals....\$1,000 00

A. H. PURDUE,  
Professor Geology.

# DEPARTMENT OF BIOLOGY

## Appropriation needed for 1903-1905

No. 1248.	Two vasculums, metal, enameled.....	\$3 00
No. 1246.	No. 2 square covers, 17 18 m. m. thick, $\frac{5}{8}$ , 2 oz.-2 oz. 17 18 m. m. thick, $\frac{7}{8}$ in.....	4 00
No. 1290.	Slides, 2 gross.....	1 70
No. 1372.	One pair forceps, artery (serrefines).....	50
No. 1378.	One dozen fine, straight point forceps.....	4 80
No. 1384.	Six medium fine, curved point forceps .....	2 40
No. 1386.	One dozen medium heavy straight point corrugated forceps.....	6 00
No. 1440.	One dozen dissecting knives..	4 20
No. 1450.	One dozen scalpels.....	4 20
No. 1516.	Forty needles, cedar handle..	1 20
No. 1540.	Six pairs anatomical scissors..	4 50
No. 1556.	Two dozen medium straight scissors .....	8 40
No. 8916.	Griffin's beakers, 12E, 12F, 12G .....	6 48
No. 8752.	Filter paper, B. & L. Co., 48x 48 ctw., 600 sheets.....	9 00
No. 9024.	One dozen dropping bottles...	1 20
No. 9160.	Slender dishes—12 B., 12 G., 12 D.....	8 78
No. 9380.	Sixty pipettes, straight.....	1 80
No. 9192.	Koch's flasks, 12 D., 12 E....	4 80
No. 9212.	Funnels, 4 corrugated.....	2 00
No. 9554.	Water glasses, Syracuse, solid, 30.....	1 50
	Microscopial labels, 2 bks., 1778 .....	60
No. 9660.	Graduated cylinders, 1:100 c. c.....	75
	Six microscopes, at \$40.....	240 00
	Six Barnes dissecting microscopes, F.....	19 00

	One Hussman ear model.....	10 00
	One Hussman eye model.....	10 00
	Four portable plant presses..	8 00
	One microtone .....	80 00
	One balance, micro-chemical..	12 00
No. 8508.	Brushes, Russian sable, 10 No. 3, 10 No. 4.....	1 40
No. 8520.	Ten brushes, test tube sponge, rattan handle.....	75
No. 9222.	Four fluted funnels, 500 c. c..	3 00
No. 10033.	Six porcelain evaporating dishes, 250 c. c.....	4 50
No. 10126.	Rubber stoppers, approx. No. per 470 grams.....	3 00
No. 10126.	Rubber tubing, pure gum, 300 c. m.....	5 00
	Sixty insect boxes, \$1.25 each	75 00
		<hr/>
		\$202 65

#### CHEMICALS

500 grams	acetic acid, c. p., 99.5 per cent.	\$ 9 50
2000 grams	H. Cl c. p.....	60
1000 grams	H. N. 03 pure S. G. 1.480.....	1 50
1000 grams	H2 S. 04, c. p. S. G. 1.840.....	30
1000 grams	Agar-Agar in shreds .....	2 00
2000 grams	absolute alcohol, 99.8 per cent	3 00
4000 grams	95 per cent alcohol.....	4 00
2000 grams	Ammonia Hydrate c. p. S. G. 90.....	80
500 grams	Barium oxide c. p.....	1 00
2000 grams	"Plaster of paris" Cal. sulph...	3 00
1000 grams	Charcoal, animal powder.....	20
.50 grams	Eosin, pure (French) for staining blood.....	2 00
1000 grams	Ether-concent, S. G. 0.725-0.726 .....	2 00
1000 grams	Fehling's solution.....	2 00
200 grams	Hæmaleen. ....	2 00
50 grams	Iodine, pure resublined.....	80
500 grams	Mercury Bichloride—corrosive sublimate.....	1 20
500 grams	Oil of Turpentine, refined.....	45
500 grams	Potassium bichromate, S. D....	60



1000 grams Potassium Caustic, pure sticks	90
500 grams Peptone, from meat—dry.....	2 50
1000 grams Glycerine c. p. refined.....	1 00
1000 grams Potassium Cyanide, crystals...	1 50
25 grams Silver Nitrate, crystals.....	60
1000 grams Sodium Caustic, purified, sticks	80
1000 grams Carbonate c. p. crystals.....	60
1000 Grams Sulphate c. p.....\$	60
1 Quire Test Paper, litmus, blue in sheets.....	75
1 Quire Test Paper, litmus, red in sheets.....	75
1000 Grams Xyol, pure D. P., 137-148 c...	1 20
20 Grams Carmalum, sies, Gruebler.....	1 00
20 Grams Erythrosin, pure Gruebler....	1 00
20 Grams Fuchsin for Bacillus Grubler...	60
20 Grams Gentian Violet Gruebler.....	1 00
500 Grams Oil Cloves.....	1 15
10 Grams Haematoxylin, Gruebler.....	80
20 Grams Methyl Blue, Gruebler.....	80
20 Grams Picro-Carmine, Wergest.....	2 35
20 Grams Methy Green, Gruebler.....	90
20 Grams Methline, blue for Bacillus (Koch).....	80
20 Grams Saffranin O "W" Gruebler....	80
20 Grams Saffranin A Gruebler.....	90
100 Grams Berlin Blue, commercial.....	75
300 Grams Canada Balsam in Xylol.....	1 80
30 Grams Myers Albumin Fixative.....	75
30 Grams Speler's Purple.....	1 00
1 Gram Osmic Acid.....	1 00
4 Dozen Grantia.....	1 00
6 Dozen Pennaria Tiarella.....	3 00
2 Dozen Astrerias Vulgaris.....	4 00
2 Dozen Astrerias Vulgaris, Water Vascular	3 00
2 Dozen Astrerias Vulgaris, Dry Specimens..	1 50
2 Dozen Buggle Turrite.....	1 50
2 Dozen Loligo Pealii.....	3 00
2 Dozen Loligo Pealii, injected.....	5 00
2 Dozen Terredo Navalis (Lume).....	2 00
4 Dozen Lumbricus Terrestris.....	2 00
2 Dozen Homarus Americanus.....	4 00
2 Dozen Homarus Americanus, infected....	6 00
2 Dozen Idotea Irrorata or Robusta.....	1 00

4 Dozen Amphioxus Lanceolatus.....	5 00
2 Dozen Musteclius, injected.....	12 00
2 Dozen Necturus Maulatus.....	12 00
2 Dozen Large Frogs, Rana Viresceus.....	3 50
2 Dozen Chrysmis Picta.....	6 00
2 12-Gallon cans in barrel.....	3 00
2 6-Gallon cans in ferkins.....	2 50
Set shelves for labratory.....	25 00
Gas for labratory.....	30 00
Plant analysis descriptive, 800.....	8 00
Rivularia material.....	1 00
Iadophora material.....	1 00
Ulva.....	2 00
Fucus vericulosus, tips.....	2 00
Polysophonia material.....	2 00
Nostoc.....	2 00
Bubochaete in fruit.....	2 00
Spirogyra in fruit.....	1 00
Zygnema in fruit.....	1 00
Peziza.....	2 00
Marchantia with sporophyte.....	2 00
Pteris, underground stem.....	50
Equisetum in fruit.....	1 00
Chara.....	1 00
Express and drayage about.....	10 00
Cats, dogs, pigeons, beef, eggs, potatoes for bacteriology apples for botany class, matches and soap for labratory,	10 00
Gas fixtures.....	75 00
Labratory desks.....	75 00
Total.....	<hr/> \$961.11

F. W. PICKEL,  
Professor Biology

# DEPARTMENT OF PHILOSOPHY AND PEDAGOGY.

Appropriation needed for 1903-1905.

Journals, \$50 a year.....	\$100.00
Reference works .....	150.00

## APPARATUS

1 standard drum .....	40.00
500 sheets glazed paper .....	10.00
1 extra brass drum .....	10.00
2 Edison small dynamos .....	30.00
10 Edison batteries .....	30.00
Renewals for two years for same .....	30.00
Wiring and tubing and glass rods .....	5.00
1 steel stylus for writing levers .....	1.00
1 aluminum holder for same .....	1.00
1 support for drum .....	2.00
1 gas burner for blacking paper .....	1.00
2 Du Bois Reymond keys .....	6.00
1 DuBois Reymond record.....	25.00
1 Mercury commutator, Ludwig .....	6.50
1 Mercury commutator, Pohl .....	2.50
1 pole changer, mercury contracts .....	1.00
1 pair muscle forceps .....	2.00
1 crank myograph .....	5.00
1 gas chamber .....	7.50
1 moist chamber .....	7.50
1 cardiograph, Mary .....	7.50
1 heart and lever muscle .....	2.00
1 mercury manometer .....	15.50
1 mercury manometer tambour .....	9.50
2 Mary Tambours .....	13.00
1 piston recorder .....	12.00
1 time marker, after Prof. Rasch .....	7.50
1 tuning fork with elect. contracts .....	25.00
1 vibrating reed, electric .....	17.50
1 Kronecker's metronome, electric .....	10.00
1 sphygmograph .....	18.00
2 time markers, single .....	15.00

1 doz. electrodes, non-polarizing . . . . .	5.00
1 Du Bois induction coil . . . . .	35.00
1 spring myograph, Lunge . . . . .	30.00
1 pr. chest calipers . . . . .	3.00
1 chest pantograph, Hall . . . . .	7.50
1 pneumograph, Burt . . . . .	2.50
1 plethysmograph, . . . . .	10.00
1 vertical writing lever . . . . .	10.00
1 belt spiropgraph, Hall . . . . .	6.50
1 rheonome . . . . .	5.00
1 set of six cannulas . . . . .	4.50
2 clamps . . . . .	3.00
1 aesthesiometer . . . . .	8.00
1 aesthesiometer caliper fo vernier . . . . .	3.00
1 algometer, Cattell . . . . .	12.00
1 temperature cylinder, Titvhener . . . . .	1.00
1 hand dynamometer, child study . . . . .	15.00
1 Mosso's exergograph . . . . .	40.00
1 set suggestion blocks . . . . .	5.00
1 set touch weights, mim. pressure.. . . .	5.00
1 multiple key, Scripture.. . . .	17.50
1 touch key, Scripture.. . . .	5.50
1 noiseless key, Scripture.. . . .	6.00
1 multiple image apparatus . . . . .	2.00
1 Smedley's cephalometer . . . . .	20.00
1 olfactometer . . . . .	5.00
1 Vernier chronoscope . . . . .	5.00
1 electric counter.. . . .	10.00
1 stop-watch, 1-5 secs. . . . .	7.50
1 hypnotic apparatus . . . . .	5.00
4 doz color tops . . . . .	2.00
1 color sense tester, scripture . . . . .	10.00
1 semapore lantern . . . . .	10.00
1 set Holmgren's wool skeins . . . . .	2.50
1 Loring's ophthalmoscope . . . . .	3.50
1 perimeter . . . . .	9.00
2 book: stereoscopes . . . . .	3.00
1 pseudoscope . . . . .	12.00
1 Galton's whistle, by Edelman . . . . .	15.00
1 automatograph . . . . .	12.00
1 automatograph supports . . . . .	2.25
1 set memory apparatus . . . . .	12.00
1 set auditory apparatus . . . . .	15.00

1 pendulum chronoscope for movement and sound, choice-time, will-time, etc . . . . .	100.00
1 sonometer . . . . .	18.00
Standards, clamps, etc . . . . .	5.00
1 set study of illusions . . . . .	10.00
1 model of ear . . . . .	7.00
1 model of eye . . . . .	6.50
1 model of brain . . . . .	11.00
1 color mixer and cards for same . . . . .	20.00
1 demonstration table and incidentals . . . . .	47.00
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Total . . . . .	\$1,250.00
W. S. JOHNSON, Professor Pedagogy.	

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## DEPARTMENT OF ECONOMICS AND SOCIOLOGY.

Appropriation needed for 1903-1905.

### 1. For Library.

#### (a) Transportation.

Atlas . . . . .	\$ 8.00
Books . . . . .	12.00

#### (b) Industrial History.

Books . . . . .	15.00
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#### (c) Commercial Geography . . . . .

Atlas and sailing charts . . . . .	10.00
Books . . . . .	20.00

#### (d) Charities, Penology, etc.

Books . . . . .	10.00
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#### (e) Money and Banking.

Books . . . . .	15.00
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#### (f) Tariff.

Books . . . . .	10.00
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#### (g) Public Finance.

Books . . . . .	15.00
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#### (h) Sociology.

Books . . . . .	10.00
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#### (i) Reference books, general text books, etc..

15.00



(j) Magazines (now subscribed for) .....	50.00
2. Stationery and miscellaneous items.....	10.00

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Total .. . . . .	\$200.00
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A. MILLIS,  
Professor Economics and Sociology.

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## DEPARTMENT OF HISTORY.

Appropriation needed for 1903-1905

For purchase of books for

Greek history .. . . . .	\$ 25.00
Mediaeval history .. . . . .	50.00
Roman history .. . . . .	25.00
Modern history .. . . . .	50.00
Reformation .. . . . .	15.00
French Revolution.....	20.00
Political science .. . . . .	100.00
American history .. . . . .	50.00
Annals of congress and congressional globe (about).....	400.00
U. S. statutes at large (about).....	100.00
Miscellaneous .. . . . .	15.00

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Total for department .. . . . .	\$850.00
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## SPECIAL

That a copy of all state documents of which there are duplicate copies in State Library be presented to the University Library.

That a copy of all Federal documents of which there are duplicate copies in the State Library be presented to the University Library.

Very respectfully,

J. H. REYNOLDS.

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## DEPARTMENT OF ANCIENT LANGUAGES.

Appropriation needed for 1903-1905.

An appropriation of \$300.00 is requested for the two years beginning April 1, 1902. This amount can be

used to great advantage in the purchase of books, pictures, stereoptican slides, plaster casts, and other things that are helpful in the teaching of the classics.

Respectfully submitted,

JOHN C. FUTRALL.

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DEPARTMENT OF ENGLISH AND MODERN LANGUAGES.

Appropriations needed for 1903-1905.

Standard English works . . . . .	\$150.00
Standard German works . . . . .	100.00
Standard French works . . . . .	80.00
Standard Spanish works . . . . .	30.00
Standard Italian works . . . . .	20.00
Miscellaneous expenses . . . . .	20.00
Total . . . . .	\$400.00

Respectfully submitted,

JOSEPH W. CARR,

Professor of English and Modern Languages.

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DEPARTMENT OF MATHEMATICS AND ASTRONOMY.

Appropriation needed for 1903-1905.

Books . . . . .	\$100.00
Journals, magazines, etc. . . . .	50.00
Models made of wood or of plaster paris. . . . .	50.00
Total . . . . .	\$200.00

G. W. DROKE,

Professor of Mathematics.

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MILITARY DEPARTMENT.

Appropriation needed for 1903-1905.

Incidental expenses, including care and repairs of arms, and equipments, purchase of flags for University

building and other purposes, repair of band instruments, music for band, etc., \$600.

To purchase new band instruments, to replace those worn out by service, \$300.00.

To build an armory, which can also be used for gallery target practice and a gymnasium, \$12,000.00.

The appropriation asked for incidental expenses of the department is the usual amount allowed for that purpose; that asked for band instruments is necessary if a cadet band is to be maintained at the University, as many of the instruments now in use are almost un-serviceable and must be replaced by new. The appropriation for band instruments should be made available immediately after its passage.

The appropriation for drill hall and gymnasium combined should be given serious consideration. The necessity for such a room is apparent to all who have been connected with this or any other institution with a military feature. A comfortable place to have military exercises during inclement weather is as much a necessity at an institution which is required by law to give practical instruction in military tactics as a recitation room, and a place where students can assemble for recreation and physical exercises during inclement weather is almost indispensable.

At all institutions of learning of any note a gymnasium is provided, and in fact is now looked upon as a necessity, and where military instruction is required the armory and gymnasium are frequently combined at such institutions. The health and comfort of the students, leaving out of consideration the pleasure it would afford, demands that a suitable room be provided for military and gymnastic exercises.

Respectfully submitted,

GEO. K. SPENCER,  
Capt. U. S. A., Commandant.

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## REPORT OF COMMITTEE ON WORLD'S FAIR.

Appropriation needed for 1903-1905.

To make such a display as would do the University credit, the amount of money indicated by the following

itemized statement is needed and respectfully requested:

Freight, including boxing and drayage.....	\$ 700.00
Pay of attendant of the display, six months...	420.00
Traveling expenses of installer of exhibit.....	200.00
Preparation of booth.....	7550.00
Lights and fixtures .....	100.00
Printed matter for distribution ..	500.00
Carpet for booth .....	50.00
Display cases and other necessary furniture..	565.00
Campus map with models of buildings .....	150.00
Botanical display (plants of the state).....	700.00
Incidentals..	250.00

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Total.. .....4,385.00

Respectfully submitted,

A. H. PURDUE,

C. E. HOUGHTON.

Committee on World's Fair.

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## SPECIAL REPORT ON HEATING DORMITORIES.

DR. H. S. HARTZOG,

*President of University of Arkansas:*

Dear Sir—I herewith submit an estimate for heating the University Dormitories by steam and repairing the main steam lines that at present are in bad condition.

The proposed plan if carried out will call for an appropriation for fuel of not less than.....\$4,000.00

And an additional fireman during the college year .. ..... 315.00

I would suggest that the amount of general repair work on the plumbing and steam systems justifies the appointment of a man capable of doing this work. Such a man would have to be paid about \$60.00 per month ..... \$720.00

The electric current for lighting the University grounds and buildings could be generated at the University power station with practically no extra expense above the first cost of the engine and dynamo, during eth time that the buildings have to be heated, by using

the exhaust steam for heating. This has been taken into account in the design of the pipes.

Estimate of pipes, boilers, etc., for heating University Dormitory and repairing main distributing line.

#### PIPES, ETC.

500 feet 4-inch pipe . . . . .	\$270.00
300 feet 3-inch pipe . . . . .	113.25
875 feet 2-inch pipe . . . . .	157.50
325 feet 1 1-2 inch pipe . . . . .	43.90
	<hr/>
	\$584.65
3 2-inch valves (Globe) . . . . .	8.20
3 3-inch valves (Globe) . . . . .	21.60
3 1 1-2 inch valves (Globe) . . . . .	4.80
1 4-inch valve (Globe) . . . . .	10.40
1 4-inch valve (Reducing) . . . . .	50.00
3 2-inch valves (Reducing) . . . . .	66.00
1 No. 5 steam trap . . . . .	32.00
1 No. 4 steam trap . . . . .	24.00
2 No. 3 steam traps . . . . .	40.00
Pipe fittings . . . . .	5.00
Pipe covering . . . . .	80.00
	<hr/>
	\$342.00
Labor . . . . .	100.00
Freight . . . . .	50.00
Cost of pipe line in place . . . . .	1,076.65
Cost of conduit (stone) . . . . .	1,800.00
	<hr/>
Total . . . . .	\$2,876.65

#### BOILERS, ETC.

120 boiler H. P. at \$10.00 H. P. . . . .	\$1,200.00
Setting boilers at \$5.00 H. P. . . . .	600.00
rooms . . . . .	100.00
For pipe fitting, valves, etc., boiler	
	<hr/>
	\$1,900.00
Enlarging boiler house and coal house . . . . .	1,500.00
Radiators, pipes, fittings, etc., for dormitory . .	3,000.00
	<hr/>
Total cost . . . . .	\$9,276.65



For general repairs for two years 1903-1905.. 500.00

\$9,776.65

Steam engine for lighting college grounds and  
buildings .....\$1,600.00

Dynamo .. . . . 1,200.00

Wires and poles for distribution ..... 500.00

Transformers ..... 300.00

Estimate of pipes, boilers, etc., for heating girls' dormitory separate and connected to main system.

# FIRST COST.

	Central	Local
Radiation and pipes in building..	\$1,600.00	\$1,600.00
Pipes and conduit .. . . .	1,300.00	.....
Total....	<u>\$2,900.00</u>	<u>\$1,600.00</u>

# YEARLY COST.

	Central	Local
5 per cent int.		
Radiation and pipes in building .....	\$ 80.00	\$80.00
Pipes and conduit, 5 per cent.....	65.00	.....
Labor per year .....	No extra	120.00
Cost of boilers .. . . .	10.00	10.00
Cost of coal .. . . .	252.00	252.00
Repairs .. . . .	100.00	80.00
Yearly cost to run system .....	<u>\$507.00</u>	<u>\$542.00</u>

C. E. HOUGHTON,  
Professor Mechanical Department.

# DEPARTMENT OF MINING ENGINEERING.

Appropriation needed for 1903-1905.

For an Associate Professor, salary ....\$3,000.00

Respectfully,

A. H. PURDUE,  
Professor of Geology and Mineralogy.

PHYSICAL CULTURE AND EXPRESSION DE-  
PARTMENT.

DR. H. S. HARTZOG,

*President University of Arkansas:*

Dear Sir—We respectfully request an appropriation for the following needs in the physical culture and expression department.

One tumblers mattress . . . . .	\$100.00
Six hydraulic rowing machines . . . . .	360.00
Two climbing poles . . . . .	6.00
One stethoscope . . . . .	4.00
One spirometer . . . . .	40.00
One Spaulding's standard measuring scale . . . .	70.00
Apparatus and necessary adjustment of spray and shower bath . . . . .	100.00
Books for expression department . . . . .	50.00
Work in gymnasium . . . . .	50.00
Repairing . . . . .	50.00
Books for expression department . . . . .	50.00
Freight and express . . . . .	100.00

Respectfully submitted,

JENNIE W. BOWMAN.

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LIBRARY.

TO DR. HENRY S. HARTZOG,

*President University of Arkansas:*

I have the honor to submit this statement of the needs and condition of the University Library. The Library is patronized by six hundred students, forty-five teachers and many visitors. The average loan of books is one hundred per day. The demand for references and parallel readings is greater than we can supply with our limited resources. The Library is especially deficient in reference books, general history, religious history, general literature, and agricultural books.

Exclusive of government books we have only four thousand books which are available in the sense of meeting the demands of patrons. One hundred books need rebinding. Our floor covering, which has not been re-

newed in eight years, is worn and discolored, and covers only half of the floor.

Owing to lack of lighting equipments, the Library cannot be used at night, or on dark days with comfort. In view of the imperative needs of the Library as herein specified, I respectfully ask that the appropriation be doubled; and said fund be apportioned as follows:

Books . . . . .	\$1,000.00
Cork floor covering . . . . .	400.00
Lighting . . . . .	100.00
Book racks . . . . .	50.00
Maps, atlases, magazines . . . . .	150.00
Rebinding books, binding magazines . . . . .	200.00
Typewriter, stationery, postage, printing, freight, and equipments . . . . .	100.00
Total . . . . .	<u>\$2,000.00</u>

Respectfully,

MRS NEIL CAROTHERS,

## PREPARATORY DEPARTMENT.

Appropriation needed for 1903-1905.

50 single desks for Study Hall, \$3.00 . . . . .	\$150.00
2 reference library cases, \$20.00 . . . . .	40.00
2 Johnson's Encyclopedias, \$75.00 . . . . .	150.00
2 sets reference books, general history, \$20.00..	40.00
2 sets reference books, U. S. history, \$20.00 ...	40.00
2 sets reference books, English history, \$12.50..	25.00
2 sets wall maps, general history, \$15.00 . . . . .	30.00
2 sets wall maps, U. S. history, \$15.00 . . . . .	30.00
1 set wall maps, physical geography, \$15.00, ..	15.00
1 physiology chart, \$15.00 . . . . .	15.00
20 new window shades, \$1.00 . . . . .	20.00
Fund for repairs to seats, etc . . . . .	50.00
2 Century dictionaries of names, \$12.00 . . . . .	24.00
Total . . . . .	<u>\$629.00</u>

Respectfully submitted,

J. W. KUYKENDALL,

Principal Preparatory Department.

## REPORT OF SUPERINTENDENT OF AGRICULTURE

Dr. Henry S. Hartzog,

President University of Arkansas:

*Dear Sir*—I have the honor to submit the following report for the Agricultural Department of the University:

The work of the department as outlined and reported upon in my past report has been continued, and all the land under the control of the department is now used either for cultivation or pasturage, and has been brought to a more presentable and profitable condition. The extreme roughness of the farm property has made it both difficult and expensive to bring about desired ends, and there is yet ample room for improvement. Fully half of the department land is of such a rough and stony nature as to render it unfit for cultivation and of but slight value for pasturage. Additional land of more uniform character is needed for experimental purposes.

At their meeting in June, 1902, the Board of Trustees ordered the barns, tool rooms and other buildings belonging to this department removed to some point west of the road running north and south between the McIlroy property and the Leverett school. It was also ordered that student labor be employed, as far as practicable, in the execution of this order. This work has been pushed as rapidly as practicable and is nearing completion. In rebuilding the barns they have to some extent been remodeled, and their present plans, arrangement and location render them more serviceable and convenient. Without changing either ground plans or elevation, about 2,000 square feet of floor has been added in the buildings as they now stand.

The poultry yards and buildings were also ordered moved, by the Board of Trustees. This will be done, it is hoped, before cold weather, and the plant enlarged and improved if sufficient funds are available for the purpose. The poultry industry is one of the most important in the State, and it is the intention of the department to carry out lines of experiments in feeding and breeding poultry, and care of eggs for their pre-

servation. A sufficient number of young fowls, of two breeds, have been raised to begin this line of investigation next spring.

The waste from the dormitory kitchen is utilized for the production of pork, producing from 3,000 to 4,000 pounds per year.

Particular attention has been given the culture of cow peas in experimental and economical lines, and a bulletin of thirty-two pages reporting various experiments with this crop has been published, and more extensive and comprehensive tests are now being made. New varieties are being produced by cross fertilization, and established ones improved by selection.

A bulletin of twelve pages, reporting experiments with sweet potatoes, has also been issued since my last report.

The crops being given greater attention from an experimental standpoint are:

Wheat, corn, oats, barley, cow peas, soja beans, alfalfa, clovers, peanuts, some new legumes, sweet potatoes, upland rice, Irish potatoes and broom corn.

The department has two breeds of hogs; chickens of two breeds; some Shropshire sheep, and the farm work stock, but no other live stock. The department deems it desirable that good specimens of representative breeds be kept for experimental purposes and for the instruction of students.

Depredations are occasionally made upon the property of this and other departments, and it is requested that directions be given as to what should be done for protection in such cases.

Mr. George Cleveland, of Fayetteville, to whom was awarded the contract of building the new dormitory, made arrangements with the Superintendent of Agriculture for the purchase of the stone used for the foundation and basement walls. He has failed to pay for the stone, claiming that members of the Board of Trustees favored releasing him from the debt. I request that instruction be given concerning the matter.

At present time there is no recitation room for agricultural students, and the classes meet in the office of the Agriculturist and Experiment Station. It is be-



lieved that every other State in the Union provides lecture rooms for their Agricultural Department of their land grant colleges. It is desirable that a class room be provided and equipped. A number of students who have desired to take the agricultural courses have found numerous conditions that have either deterred or prohibited them from taking the course of study. In some cases the required work in other departments has covered so much time that students wishing to take agriculture and horticulture have had their time so closely occupied as to exclude these two branches from their course. Since this is a land grant institution, the Agricultural Department holds that it should not be discriminated against.

Respectfully submitted,  
(Signed) C. L. NEWMAN.  
Superintendent of Agriculture.

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## REPORT OF PROFESSOR OF HORTICULTURE.

Dr. Henry S. Hartzog,  
President of the University of Arkansas.

*Dear Sir*—I have the honor to submit the report of the Horticultural Department of the University for the year ending June 1, 1902:

Every feature of the department, I believe, is in better condition than ever before. An increasing and gratifying interest is being shown in the work of the department and horticultural studies, due no doubt in part to the prosperous condition of horticulture in this and other sections of the State, and to a better understanding of the nature of the work, its scope, educational, and practical value, not only to those who expect to engage in horticulture as a business, but to every one who expects to own a home in the true sense of the word, whether in city or country, and to every one whose success in other lines, good fortune, or inclination shall enable him to own land.

Twenty-one students have received instruction in this department during the past year. The work of students has been enthusiastic and satisfactory. In addi-

tion to the regular classes in horticulture I have voluntarily devoted two hours a week to a class in nature study made up of students from the preparatory class.

Much labor has been expended in improving the grounds under my care, in better fitting them for the purposes of the department, as well as improving them in attractiveness. Many trees, shrubs and other plants have been set out for instruction, ornament, or trial. A considerable number of small seedlings have been planted out for future use about the grounds. Walks or lawns have been made or improved.

The horticultural grounds of the station have been enhanced in appearance by a strong and neat woven fence. Parts of those grounds have been graded, and some rough retaining wall placed where it had been needed to prevent washing and assist in leveling the surface.

Parts of the field hitherto subject to washing and gulying have been much improved by terracing and the construction of several hundred feet of rough retaining wall. This enabled me to put to a useful purpose a large accumulation of rock which had previously encumbered the field.

Some needed implements for orchard cultivation, together with some smaller tools, have been purchased. A few important reference works have been added to the library, among these Bailey's Encyclopaedia of Horticulture, in four volumes.

A considerable amount of work has been done by student labor, which has been of service as well as a benefit to the students.

During last August a display of fifty-five varieties of grapes from the Horticultural Department was made at the Siloam Springs Fruit Fair. They attracted much appreciative attention.

In January the State Horticultural Society held its sessions at the University. The meeting was the largest and most enthusiastic in the history of that organization, two hundred and fifty persons being present at some of the sessions, representing nearly all sections of the State.

During the year various demands have been made upon the time at my disposal by University work, outside of my regular duties.

My report as Horticulturist and Entomologist of the Experiment Station will be found in its appropriate place. I might say more, however, that the station work in horticulture embraces experimental studies along several lines of more or less immediately practical interest to horticulturists of the State, and of attention to a growing correspondence necessitated by frequent demands for immediate information relating to practical matters connected with horticultural production.

Very respectfully,

(Signed)

ERNEST WALKER,  
Professor of Horticulture.

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## REPORT OF PROFESSOR OF CHEMISTRY AND PHYSICS.

DR. HENRY S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—I have the honor to report that the Department of Chemistry and Physics is in a flourishing condition. I find that my predecessor has made wise use of the funds available and can compliment him upon the good condition in which everything is to be found. The number of students enrolled at the opening of this session is up to the record for former years and is as follows:

General chemistry .....	63
General physics .....	55
Qualitative analysis .....	2
Quantitative analysis .....	2
Organic chemistry .....	1
Preparatory physics .....	20
Electricity .....	2

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Total .....152

This means an enrollment in this department of nearly 200 before the session is at an end. Several courses not tabulated above are offered only during the

second term. Work in both lecture room and laboratory is progressing satisfactorily in spite of an equipment that has always been reported inadequate for such large beginners' classes. General chemistry and physics are both taught in two sections. We have had a physical store-room partitioned off, the chemical desks repaired, and many minor improvements inaugurated during the past month.

I will state that this department is prepared to co-operate fully in the establishment of a textile or of a mining school by offering appropriate courses. I would like to call your attention also to the needs of a skilled instrument maker for all the scientific departments.

Let me now refer in special terms to what has often been referred to in a general way in former reports, namely, those needs that are presumably necessary to put the department on a footing, as to equipment, with similar departments in other universities.

There is urgent necessity for a modern system of drainage, including the purchase of twenty soapstone sinks. The present arrangement of letting water drain from the side of the building is unsightly and unsatisfactory.

There are numerous minor alterations that can be made at small cost, and in my judgment are urgent; such as partitioning off of a fuming room for qualitative work, the erection of six hoods or chemical ventilators for experimentation, the introduction of a modern system of ventilation for the main laboratory room, the enlargement of the quantitative laboratory, the purchase of modern lecture room chairs and laboratory stools, the enlargement of the physical lecture room, which is much too small at present, the deepening and cementing of the basement where the assay laboratory is situated, and the painting and papering of the rooms so as to improve their appearance.

The amount of apparatus for laboratory work on hand and to be purchased with the remainder of the departmental fund will be quite inadequate to the needs of the large number of students. I refer in this particular to the reports of my predecessor. The system of management in chemical laboratories in this country is



to have every desk full of proper kind of apparatus for the work of the room, locked ready for use, and stocked with a complete line of solutions and chemicals.

In this connection, the need of more advanced apparatus for a wider range or experiments by beginners in both chemistry and physics may be recognized. Finally I may call attention to the lack of a crucible furnace, of a storage battery and a few other electrical instruments such as will be necessary to enable the department to co-operate successfully with that of electrical engineering and to offer a course that is destined to play an important part in the industrial development of the state.

I append, as a separate exhibit, a summary of the expenditures of the past two years and of the value of the buildings and equipment, taken from the books of this department; also an itemized statement of the needs for maintenance and additional equipment during the ensuing two years.

Respectfully submitted,  
(Signed) A. M. MUCKENFUSS,  
Professor of Chemistry and Physics.

## REPORT OF PROFESSOR OF ELECTRICAL ENGINEERING.

DR. HENRY S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—I have the honor to submit this my ninth annual report of the Department of Electrical Engineering.

The students of the several classes of this department were distributed as follows:

Course	Hours Per Week	No. Students	Teacher
E. E. 1	5	9	Gladson and Treadway,
E. E. 2	2	6	Gladson,
E. E. 3	2	15	Treadway,
E. E. 4	3	3	Gladson,
E. E. 5	2	11	Treadway,
E. E. 6	4	2	Gladson,
E. E. 7	3	6	Gladson,
E. E. 8-9	3	2	Gladson,
E. E. 10	2	6	Gladson,
E. E. 11	2	7	Gladson,
E. E. 12	3	6	Treadway.



In the above schedule, courses 2 and 10 are half year courses and 3, 4, 5 and 6 are drawing and laboratory courses in which two hours of work are counted as one recitation equivalent.

All of the courses of instruction have been given as indicated in our 1900-1901 catalogue.

Since my last biennial report a number of important pieces have been added to our laboratory and lecture room equipment.

In the testing laboratory we have placed a potentiometer, made by Morris E. Leeds & Co., having an accuracy of adjustment to 1.50 of one per cent; a compound lamp rotator for incandescent lamp photometry, and a 5x7 camera arranged for reducing and enlarging.

To the dynamo laboratory we have added five Whitney measuring instruments and one Bristol recording Voltmeter, while a 120,000 volt testing transformer is being designed for us.

The necessity of using our dynamo laboratory for a drawing room has detracted somewhat from the work this year. I beg to urge on your attention, and that of the Board of Trustees, the necessity of providing a suitable engineering building for the accommodation of the department. This building should be thoroughly well equipped, and modern in all its appointments, and should be so designed and built as to add to the elegance of our campus.

The importance of this branch of engineering is shown by the facts that there are at present 600,000 people engaged in the electrical industries in the United States, and the combined capital involved is \$4,000,000,000. This immense industry has developed in the latter half of the present century, and for the most part in the past fifteen years. This branch of engineering, unlike any other of the applied sciences, has developed first along theoretical lines, the practical application coming after the perfected theory. This makes a theoretical or college training imperative to one who would successfully engage in electrical engineering.

This University is the only institution in the State where a young man may receive a theoretical and practical training in this important branch of engineering, and we need the hearty co-operation of the people through the State Legislature, if we are to keep abreast of the times.

It will require several years to get an equipment in teaching along the lines of mining machinery, electro-chemical machinery, high tension power transmission, electric railways and some improvements in photometric and testing work.

It will require several years to get an equipment in all of these lines, and I am convinced that a thoroughly good mechanic who has had some experience in instrument making could effect a considerable saving to the University by employing his time in making apparatus for this and the Department of Physics and Chemistry.

I would also recommend that we continue our efforts to secure an engineering building, especially for the accommodation of electrical and civil engineering, and that the Legislature be asked to appropriate not less than \$25,000 for this purpose.

The expenditures of this department for the past two years has been approximately \$2,500.

The department book and inventory of apparatus accompanies this report.

Respectfully submitted,  
(Signed) W. N. GLADSON,  
Professor of Electrical Engineering.

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## REPORT OF PROFESSOR OF CIVIL ENGINEERING.

DR. H. S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—I have the honor to submit the following report of the Department of Civil Engineering for the year 1901-1902.

It gives me pleasure to report that in many respects the past year has been a successful one. The number of students pursuing the course of civil engineering is by far the largest in the history of the department. The

number enrolled in this course for the present year, in the collegiate department, is forty-three, while the total number receiving instruction is sixty, divided as follows: Number in senior class, 7; in junior classes, 9; in sophomore classes, 18; and in freshmen classes, 26.

I have been unable during the present year to supply the demands for our graduates. All the members of the senior class had received offers for positions fully four weeks before the close of the session, and two members were obliged to leave before commencement to take up their work. Practically all of the students of the junior and sophomore classes who desired to work during the summer vacation have secured employment along some line of engineering. I have endeavored to check the growing tendency among students engaging in practical work during vacation to leave before the close of the session. This not only entails extra work upon all of the teachers for special examinations, but in many cases the student is not able to make up this lost time, and must drop back one class, or as is more often the case, the students become discouraged, and leaves the University before graduating. On the other hand, I find that very many of these students are obliged to work during the summer vacation, and earn money so that they can return to school the next year. Thus it is necessary for them to accept these positions when offered, which is usually from three to four weeks before the close of the session.

The most important addition to the equipment is the precise level made after the pattern of the United States coast and geodetic survey. With the addition of this instrument, the department is very well equipped to carry on the work of higher surveying and geodesy. What we lack now in particular is an equipment for testing building materials and for making experiments in hydraulics. A small beginning has been made during the last year in purchasing some apparatus for the practical study of hydraulics, but for the testing of materials we have no apparatus worthy of name. It must be remembered that the sphere of the engineer covers a great number of so-called professions, including railway engineering, hydraulic engineering, sanitary engineering, bridge engineering, and the great

number of problems in municipal engineering. In order to offer our students that broad preparation and substantial foundation necessary to begin their professional work along either of the lines requires good laboratory facilities, and unless we can fit our students to fill these places the world will not recognize them, and they will always be at a great disadvantage, in competition with graduates from other schools where these facilities are provided. At present there is no place within the State where even so much as the usual test prescribed by ordinary specifications for paving brick can be made. One of these tests is that for determining the crushing strength, requiring a machine between the capacity of 200,000 and 300,000 pounds. For the purchase and installation of such a machine with the necessary accessories, will require an appropriation of not less than \$4,000. In addition to furnishing a much needed equipment for this department, a certain amount of commercial work could be done which now has to go outside of the State.

I would respectfully call your attention to the necessity of making a recommendation to the State Legislature for an appropriation for an engineering building, as recommended by the Committee on Buildings and Improvements, in their annual report.

To properly carry on the work for the next two years, an appropriation of not less than \$2,800 will be required, as shown in detail on the following page.

I respectfully call your attention to the necessity for increasing the salary of the assistant instructors in this department. The salary at present is \$600 per annum. Compare with this the salary of the members of the class graduating January, 1902, which range from \$65.00 per month to \$100.00 and expenses. It should be perfectly plain that with this difference in compensations for teaching and practical work for the first year that it will be impossible to hold any of our graduates longer than one year as an instructor, thus making it necessary to employ a new and inexperienced man each year.

Respectfully submitted,

Signed)

J. J. KNOCH,  
Professor of Civil Engineering.



## REPORT OF THE PROFESSOR OF GEOLOGY AND MINEROLOGY.

DR. H. S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—I have the honor to submit the following biennial report of the Department of Geology and the Museum for the period ending with June, 1902.

Previous to the time of my first connection with the University, the opening of the collegiate year 1896-97, the work in geology had been connected with biology, and the department known as that of biology and geology. It had so happened under this arrangement that the teaching force of the department, consisting of a professor and an assistant professor, were both by training and inclination biologists, and but little attention had been given either to the teaching of geology or the facilities for teaching it; so that, on assuming my duties, I found but a small equipment in the way of exemplary material, no class room, and no students. Under these discouraging conditions, having been given complete charge of the work in geology, I set to work to build up as strong a department as conditions would allow. During the last six years the teaching equipment of the department has been increased until its value is now \$4,000. Though much remains to be added before the department is anything like complete, the department is in condition to do fairly good work.

During the last collegiate year fifty students were enrolled in the department, and six courses were given, each running throughout the year.

The demands upon the department for students to do field work has for the last four years been greater than it could supply. At the present time its students are at work on the United States geological survey, as follows: One in Arkansas, one in Kansas and two in Ohio. Also one is placed on the Missouri geological survey. It is but just to say, however, that many of those students who, during the last four years have been placed on the United States geological survey received their technical training in part and some of them entirely in the Department of Civil Engineering.



In collecting and displaying material for the museum, two objects have been kept in mind: First, to secure such material as would be helpful in teaching the subject of geology; second, to make the museum interesting and educative to the general public. A small beginning has been made along these lines, which if continued will eventually make the museum a valuable part of the institution, and will fill a great need in the State.

Respectfully submitted,

(Signed) A. H. PURDUE,  
Professor of Geology and Mineralogy,  
and Curator of the Museum.

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## REPORT OF PROFESSOR OF BIOLOGY.

DR. H. S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—I have the honor to submit the following report of the Department of Biology:

During the past scholastic year (1901-2) the following courses of instruction were given: General biology, botany, advanced botany, general zoology, bacteriology, physiology and Mammalian anatomy.

Classes are being instructed this session in the following subjects: General Biology, Botany, General Zoology, Entomology, Economic Entomology, Bacteriology and Mammalian Anatomy. Interest in the work is growing daily and the prospects for a successful year are good.

I began last spring classifying and arranging the collection of shells (mollusca) in the museum, and am continuing the work at odd moments. I am also making a collection of the plants and animals around Fayetteville, and expect to make a collection of the plants of Arkansas for the World's Fair if sufficient means are available.

Respectfully submitted,

(Signed) FRANK W. PICKEL,  
Professor of Biology.

## REPORT OF PROFESSOR OF PHILOSOPHY AND PEDAGOGY.

DR. H. S. HARTZOG,

President of University of Arkansas:

Dear Sir:—I have the honor to submit the following report of the department of Philosophy and Pedagogy:

### I.

As to what has been done in the departments of philosophy and pedagogy, I am not sufficiently acquainted to pass an intelligent opinion upon either its merits or demerits, having entered on my duties here in September.

### II.

The object we have in mind at present is to make both departments more beneficial to those electing the work, by making it as practical as possible. This applies with equal force to both psychology and pedagogy. To those who elect the teachers' course, I hope to give them now only a theoretical course in the elements of psychology, methods of class-recitation, management of schools, in fact, all those things that a teacher in the public schools of the State should know, but to emphasize the methods and theories advanced in the class room by giving the students of the fourth year class a chance to put their ideas to a practical test by teaching in the public schools of Fayetteville, under my immediate supervision. The superintendent of schools, Professor Mitchell, has kindly given his consent and it is in hearty accord with my plans.

I have examined the catalogue of most all the leading normal schools of the United States, and I find that in the majority of them they offer about the same number of hours in the professional courses as that which is offered in the University of Arkansas. But in all the practical normal schools, they offer, in addition to the theoretical course, training in practical schools. I recommend that provision be made for a fully equipped training school as soon as practicable, and that will be

when we have a dormitory for girls. In all the normal schools of the United States by far the larger per cent is made up of young ladies, in many of which 90 to 95 per cent. of their number are women. Before the normal school can grow, it is absolutely necessary that provision be made for the young ladies to secure board at as low rate as possible. The reason for this is evident.

With the practice-teaching the course will necessarily be lengthened by the amount of time spent in teaching, which, with most of the normal schools, requires one recitation and attendance at the critique each day by the students of the fourth year class. Both the recitation and the critique require about one and one-half hours of the students' time. The preparation for giving the lesson depends upon her knowledge of the subject; but the usual time required for preparation and writing of plan usually requires for inexperienced teachers about two hours. As we do not have a regular critique teacher, and since the catalogue governing the present fourth-year class does not provide for such training work, I am not at liberty to give them as much practice in teaching as I would like, for what practice-teaching they will have this year will necessarily be at the expense of the class work.

However, I deem the practice work of such vital importance that I propose to have them teach for a short time at any rate, even at the expense of the theoretical work in the class room.

From what I have already said you will readily understand that my object is to prepare the teachers in as practical way as possible for their profession—to not only know the *why*, but the *how*. All theory and no practice does not prepare the student of medicine for his profession, neither does it prepare the teacher for his or her profession. For the most successful teaching, it is very necessary for the teacher to understand the philosophical foundation of pedagogics in its relation to methods of instruction, but it is equally necessary for them to understand how to put this knowledge into practice, i. e., to develop the ability to *do by doing*.

For the perfect equipment of the normal school, it

would require a training school beginning with the kindergarten and going up to the A. class in the University. This would give the students of the normal an opportunity to become acquainted with the work done in all the grades by teachers who have had special preparation for this work. In addition to this, incidentally, it would do away with certain requirements for students coming to the University. If they could not make the A class, then they might enter the training school. I consider this of material worth to the University, because I find that many students who would otherwise come here go to the other schools because they are fearful lest they cannot make the entrance examination at the University. Hence they go elsewhere, and when once there, they usually remain until they have completed their education.

Another advantage in having a training school entirely under the control of the University is that we are not restricted as to the methods to be pursued and the courses to be given, which will necessarily be the case if we are under the control of the town school board. Again, we could limit the attendance, which could not be done, if we assume the charge of one of the city schools. This has frequently been done by some of the normals and has not proven satisfactory except where provision has been made whereby the school was entirely released from the city supervision.

A training school under the immediate supervision of the University, with a principal and full corps of teachers is the ideal to be attained; but until we have a larger attendance in the normal school, it seems to me more practical to ask for less of the board. However, *we should by all means have at least one critique teacher here next year.* This is one of the very necessary requirements, and one which I especially urge. This critique-teacher may be a lady whose services may be had for about \$750. From past experience and observation, I find that women of special preparation make the best critique teachers. They are, as a rule, more careful about details and are more versatile in suggesting devices. This, of course, applies more especially to work in the primary and secondary grades. I would also sug-



gest that the work of this critique teacher begin with the work in the summer school. With less we cannot justify the claim that we have a normal school at all.

I would like that our normal graduates' diploma be recognized by the State by giving them a life certificate, as is the custom in most States where they have fully equipped normals. But, until we have better equipments in the way of training work, we cannot legitimately ask the Legislature to thus favor our graduates, because it would be discriminating to some extent at least, against the other colleges in the State, which offer so-called teachers' courses. When we have a course and equipments equal to the average normal school, then we can go before the Legislature and ask for such a recognition of our work as is given by all the other States for similar work done. When we can do this, it will be an inducement to those who expect to make teaching their profession to come here and take the course.

### PSYCHOLOGY

In this department we have no equipment whatever. Laboratory equipments are indispensable to teaching of this work. Formerly physics and chemistry were taught after a fashion without apparatus for demonstration; now no one would attempt to teach these subjects without equipments. The same necessity exists for the successful teaching of psychology. This fact is recognized by all the more progressive normal schools, colleges and universities.

Psychology is no longer considered merely from the philosophical standpoint, but is treated in methods of presentation as a science. As a science, it is more exact; and to treat the subject from this standpoint, some apparatus is absolutely necessary. In methods of presentation of the subject, I place psychology exactly on the same ground as physics and chemistry. In the list of apparatus which follows, I designated only such as I deem absolutely necessary for teaching of the subject in a practical manner.

### III.

#### BOOKS

Our psychological and pedagogical departments



are rather poorly equipped with reference to pective enlargement of the normal school, it is very necessary that more attention be given to child study. There are no reference works on this subject whatever in the library.

We should spend at least \$50.00 per year on journals for the psychological and pedagogical departments, \$100.00 for the two years. And it would seem to me that \$150.00 for reference works would be as small amount as we could get along with.

At the State normal school of Louisiana I was allowed \$750.00 to begin with, and had demonstration table and lantern on hand. The department was allowed the same amount this year for better equipment, so I understand. Of course, I cannot say what the result would be here; but there the first year I provided for 16 students in laboratory psychology and had application from 24 students. The second year I provided for 32 students and had over 40 applications. I merely speak of this to show that where they are prepared for the work, psychological study holds its own with the other sciences when left open to election.

Respectfully submitted,

(Signed)

W. S. JOHNSON.

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## REPORT OF THE PROFESSOR OF ECONOMICS AND SOCIOLOGY.

PRESIDENT HENRY S. HARTZOG,

University of Arkansas:

Dear Sir:—I herewith submit a report of the work done in the Department of Economics and Sociology during the last two years and offer suggestions as to the changes desirable in the scope of the work and an estimate of the appropriation needful for the proper development of the department.

### I.

During the academic years 1900-1901 and 1901-1902 the Professor of Economics and Sociology conducted

courses in civics, principles of political economy, industrial history, money and banking, tariff history of the United States, public finance, transportation, sociology, and social problems. During the year 1901-1902 the enrollment was 103. The courses mentioned above are being offered this year and the enrollment will perhaps be somewhat larger.

## II.

The work in economics and sociology is capable of being made very practical and an effort has been made to make it so from the organization of the department. Believing that it is the proper function of the State University to equip her students for meeting and dealing successfully with the problems of every day life, I think it is well in the future to emphasize the practical side of the work even more than it has been emphasized in the past. Courses in commercial geography dealing with the industrial situation and prospects of the important nations of the world, in the industrial and financial history of the United States and particularly of the South, and in charities, penology and similar problems, if given, would assist in equipping students for leading useful and successful lives. Other American universities are giving more and more attention to these subjects, and I suggest that it would be well for the University of Arkansas to do the same.

## III.

The General Assembly of 1901 appropriated \$150 for the use of the Department of Economics and Sociology. My predecessor in his last report to the President of the University recommended that this be increased to \$200. When the needs of the department, still young and poorly equipped, are taken into consideration, this sum is seen to be absolutely indispensable for its proper development. The estimates given under "Library" are for the appropriations needed to purchase standard books for the use of the students in connection with the several courses indicated. Further explanation of the estimates which follow is unnecessary.

Trusting that this will give you the information desired, I am,

Very truly yours,

(Signed)

H. A. MILLIS,  
Professor of Economics and Sociology.

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## REPORT OF PROFESSOR OF HISTORY.

PRESIDENT HENRY S. HARTZOG,

University of Arkansas:

Dear Sir:—This communication is made in response to your recent request for certain information concerning the several departments of the University.

With what has been done in the Department of History and Political Science I am not informed so as to speak with any degree of certainty. As to the work in progress, classes have been organized in all the courses announced in the catalogue, except course 10, for which no students were prepared. One division of general history has been transferred to me from the preparatory department. I also meet freshman history in two sections; 100 students are now in these classes. No changes either in courses or in text books from catalogue announcements have been made. While some changes are in contemplation, they are still under advisement, and any statement at this time would be premature. However, at the proper time I shall advise the substitution of Greek and Roman history for the general history in the preparatory department, and a more flexible entrance requirement in history.

## NEEDS OF THE DEPARTMENT.

Arkansas History.—The Professor of History and Political Science in the University can render the State a patriotic service by interesting the students in the history and political problems of the State. If not interested in Arkansas questions while students, their future interest in the State will not be so deep nor will their service as citizens be so valuable. Just now our State needs the service of her most capable sons. But before the Pro-

fessor of History can render this service, the library must be well equipped in Arkansas history. In the library should be not only all histories of the State, but also a copy of all territorial and State documents. If the Legislature will authorize the Secretary of State to turn over to the University Library a copy of all such documents where there are duplicates in the State Library, a mine of rich historical material will thus be placed within reach of University students at almost no cost to the State. This list of documents should include statutes at large, digests, and Supreme Court Reports, as well as all departmental reports.

In the second place a systematic movement should at once be begun to collect and preserve either at the University or at the State capitol old manuscripts, letters, maps, journals, muster rolls, diaries, rare books, relics of battle fields, aboriginal remains, portraits and other things of value to the future historian of the State. This work should have been begun long ago; many things of value have doubtless been lost permanently; and every year witnesses the loss of the only means of doing justice to some character or of writing a true history of some period. We are very properly sensitive as to the honor and fame of our fathers who took part in the civil war; and yet as a State we have done almost nothing to guarantee that simple justice will or even can be done to their memory. If we wish the truth told as to the deeds of our fathers in that great struggle and an impartial story written of the reconstruction days, we have but little time to lose. A historical renaissance is in progress in several Southern States. State historical societies, aided by the State in some cases, are doing noble work. Such is the case in our sister State, Mississippi. This work should be taken up in Arkansas, and the University owes it to the State to take the initiative and the leadership in the matter. It should be done, too, on broad lines, not in any spirit of sectionalism with a view to distorting the facts from their true setting. We should be satisfied with nothing short of the whole truth. If the Legislature is willing to place at the disposal of the Professor of History a small sum of, say \$100.00, with which to begin this work of collecting such documents and relics, he promises faithful stewardship



in its administration. If in two years the results justify the expenditure, further provision for the work may be made.

#### FEDERAL DOCUMENTS.

United States documents are a rich source of information for the student of American history and political science. This part of the University Library is unfortunately deficient in not extending back beyond the date of the founding of this University. In the State Library at Little Rock, however, are duplicate copies of federal documents. I am sure there is nothing in the letter or the spirit of the law to prevent the Legislature instructing the Secretary of State to turn over to the authorities of the University Library a copy of each of those documents of which there are duplicate copies in the State Library. If there should be any question involved, the consent of Congress could be secured. The books could be placed here subject to recall should circumstances demand it. In the work of assorting and selecting both State and Federal documents I am willing to assist the Secretary of State if my services should be needed.

#### OTHER BOOKS.

While the library has a collection of valuable histories, a glance shows that they are suited for the specialist rather than the undergraduate students. This is especially true for the courses in Greek and Roman history, mediaeval and modern, the reformation, the French revolution, and political science. The classes are so large in courses 1 and 2 that we need several copies of the same book.

The Political Science division has been almost entirely neglected, there being only two books in the library to which I can freely refer in courses 8 and 9. While I could use several hundred dollars to advantage, I recommend a minimum appropriation of \$835 for books for the department, and \$15.00 for miscellaneous expenses. In the expenditure of this sum it shall be my policy to provide a working library for students.

Very respectfully,

(Signed)

J. H. REYNOLDS.



REPORT OF PROFESSOR OF ANCIENT LANGUAGES.

DR. HENRY S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—At the present writing 135 students have been enrolled in this department. Other students applied for advanced work, which could not be given because of the limited teaching force of the department and the large number of classes to be handled.

Respectfully submitted,

(Signed)

J. C. FUTRALL.

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REPORT OF PROFESSOR OF ENGLISH AND MODERN LANGUAGES.

DR. H. S. HARTZOG,

President of the University of Arkansas:

My dear Sir:—I have the honor to submit the following report of the Department of English and Modern Languages:

After the resignation of Dr. W. A. Read to accept the professorship of English in the University of Louisiana, I was promoted by the honorable Board of Trustees from the associate professorship to the professorship of English and Modern Languages. E.

F. Shannon, A. B., for over two years associate professor of Ancient Languages, was transferred to the position left vacant by my promotion. Miss Hadgie Davies, A. B., for over four years a member of the Department of English and Modern Languages, was re-elected adjunct professor.

As soon as the membership of the department had been determined upon, I began to make plans for our work. In this I was heartily assisted by my two colleagues. After our courses had been provisionally assigned, Professors Shannon and Davies attended the summer session of Harvard University. The former made a special study of English, which is taught more successfully at Harvard than at any other American institution. Professor Davies devoted herself to the study of French under the direction of Dr. J. D. M. Ford, the

eminent Romance philologist. I was not idle myself during the summer, as I was preparing lectures and perfecting plans for this year's work. Incidentally, I attended the meeting of the State Teachers' Association in Hot Springs, where I had the pleasure of becoming acquainted with many of the prominent educators of the State. When college opened our department had much larger classes than had been expected, and therefore some courses in English, German, French, and Italian could not be given. I pursued the policy of omitting elementary courses asked for by only a few students, and giving advanced or well attended course.

The department is paying particular attention to freshman and sophomore English. This work has been completely reorganized. In the belief that the best way to learn English is to use it, I have emphasized theme-writing above all things else. For this purpose the two classes are divided into sections of about fifteen students each, meeting twice a week. I have one section of freshman; Professor Davies has two sections of freshman and one of sophomores, and Professor Shannon four sections of freshmen and two of sophomores. All three of us take turns in conducting the entire freshman and sophomore classes once a week for a third of the year. The students write, and their instructors criticize three hundred short themes a week, and fifty long themes every fortnight. But this is only the most important part of the work.

All freshmen and sophomores are receiving instruction in theoretical rhetoric twice a week. The freshmen are studying the history of American literature, and the sophomores that of English literature. The latter hear lectures on the subject and are required to take and hand in notes. On Tuesdays the instructors often read to their classes selections from the authors studied. Later in the week students are required to reproduce in their themes the substance of these selections. Translations from foreign languages are called for at intervals in the sophomore class, because idiomatic translation is a valuable adjunct to English training. Such themes are criticized and corrected from the view-point of clear

and correct English. Private reading of the best American and English authors is required to the amount of about one hundred pages a week. Students cannot neglect this work, for they are often called on for themes suggested by the assigned reading. Finally, some of the best English poems are committed to memory by both freshmen and sophomores. This (and the assigned reading) increases their vocabulary, makes them familiar with the best English in language and literature, and trains them to express themselves clearly and correctly. Professors Shannon and Davies have large junior courses in Eighteen Century Literature and Shakespeare, respectively. I am giving an introductory course in Old and Middle English. I also give three courses in German and two in Spanish, while Miss Davies has two French courses. Most of the modern language classes are much larger than they were a year ago. If the present rate of increase continues next year, the department will be greatly in need of another instructor. In such an event I would recommend the appointment of an instructor in, or assistant professor of, Romance Languages.

My schedule is as follows:

English 1,	103 students,	once a week,	three months,
English 1, VII.	13 students,	twice a week,	all the year,
English 2,	47 students,	once a week,	three months,
English 5,	4 students,	twice a week,	all the year,
German 1,	37 students,	thrice a week,	all the year,
German 1,	37 students,	thrice a week,	all the year,
German 2,	11 students,	thrice a week,	all the year,
German 3,	5 students,	twice a week,	all the year,
Spanish 1,	20 students,	thrice a week,	all the year,
Spanish 2,	3 students,	once a week,	all the year,
Conference hours,		once a week,	all the year,
Total—9 classes, 243 students, 19 and two-third hours a week.			

Professor Shannon has:

English 1,	103 students,	once a week,	three months,
English 1, III.	17 students,	twice a week,	all the year,
English 1, IV.	14 students,	twice a week,	all the year,
English 1, V.	16 students,	twice a week,	all the year,
English 1, VI.	13 students,	twice a week,	all the year,
English 2,	47 students,	once a week,	three months,
English 2, II.	17 students,	twice a week,	all the year,
English 2, III.	12 students,	twice a week,	all the year,
English 8,	19 students,	twice a week,	all the year,
Conference hours,		four times a week,	all the year,
Total—9 classes, 258 students, 18 and two-third hours per week.			

Miss Davies has :

English 1,	103 students,	once a week,	three months,
English 1, I.	15 students,	twice a week,	all the year,
English 1, II.	14 students,	twice a week,	all the year,
English 2,	47 students,	once a week,	three months,
English 2, I.	18 students,	twice a week,	all the year,
English 4,	18 students,	twice a week,	all the year,
French 1,	15 students,	thrice a week,	all the year,
French 2,	7 students,	thrice a week,	all the year,
Conference hours,		thrice a week,	all the year.

Total—8 classes, 236 students, 17 and two-third hours a week.

English 1 is divided into 7 sections, English 2 into 3.

It would help the English department of both college and preparatory school, if the preparatory students not taking Latin took German or French. I maintain that there are proper substitutes, if Latin is omitted. The student who has not had a foreign language cannot become as good an English scholar as he otherwise would. The difference between students who have had a foreign language and those who have not is very evident in our freshman class. It sometimes amounts to the difference in passing and not passing in the course. The preparatory students of French and German could be taught in the college classes, as is done in at least one other Southern university. This would be a great saving to the preparatory school and the State, and would enable students to pursue a modern language longer and become more proficient in it and in English than has been the case.

I respectfully recommend that \$380.00 be appropriated for the purchase of English and Modern Language books the next two years, and that \$20.00 be appropriated for miscellaneous expenses. When it is considered that this one department virtually includes four (English, Rhetoric, German, and Romance Languages), it will be seen that my request is moderate. We are without many standard authors in English, almost all in French, and practically all in German, Spanish, and Italian. Furthermore, we shall need special books for our students' use in the courses in sixteenth, seventeenth, and nineteenth century literature.

Some of the students who were in my French classes last year presented books to the library. The



names of these students will be found in the report of the Librarian, Mrs. Carothers.

I thank my colleagues, Professors Shannon and Davies, for sympathetic and thorough co-operation in the work of the department.

Respectfully submitted,  
(Signed) JOSEPH W. CARR,  
Professor of English and Modern Languages.

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## REPORT OF PROFESSOR OF MATHEMATICS AND ASTRONOMY.

DR. H. S. HARTZOG,

President of the University of Arkansas:

Sir:—I have the honor to submit the following report of the Department of Mathematics and Astronomy for the year ending June 30th, 1902, and also certain statements relative to the work of the present year.

In many respects the work of the students has been very satisfactory. A larger per cent. than usual has made a passing grade and many students have done excellent work. Furthermore, the students as a whole have manifested greater interest in their studies than heretofore.

The department now has a well arranged reading room and a carefully selected library. Fifty-eight volumes have been purchased the present session. The more advanced students are learning to appreciate the mathematical library, and are deriving no little benefit therefrom.

Popular Astronomy, Annals of Mathematics, and American Journal of Mathematics are received regularly. An 18-ounce slated globe, two spectroscopes, and a sextant have been added to the meager astronomical equipment.

During the present session the division of classes among the teachers has been as follows:

Professor Droke—Senior Mathematics, 3 hours; Junior Mathematics, 5 hours; Sophomore Mathematics, 3 hours; Freshman Geometry and Trigonometry, section L, 3 hours; Junior Astronomy, 3 hours. Total, 17 hours.



Associate Professor Dunn—Sophomore Mathematics, 5 hours; Freshman Geometry and Trigonometry, sections 2, 3 and 4, 3 hours for each section; first year Preparatory Mathematics, 2 hours, first term. Total 17 hours.

The number of students enrolled are as follows: Seniors, 3; Juniors, 20; Sophomores, 56; Freshmen, 115. Total enrollment, 194.

For the session just beginning, the scheme below shows the division of the classes between the teachers, the number of hours per week each class recites, and the number enrolled in each class.

Name of Teacher	Name of Class	No. Hours per Week	No. Enrolled
Professor Droke.....	Junior—		
	Course 6	3	15
	Course 5a	3	7
	Course 13a	3	3
“ “ .....	Sophomore—		
	Course 5	2	19
	Course 3	3	16
“ “ .....	Freshman—		
	Course 1	sec. 1, 2	32
	Course 1	“ 3, 3	30
Total.....		18	122
Associate Professor Dunn.....	Sophomore—		
	Course 4	3	15
“ “ “ .....	Freshman—		
	Course 2	2	40
	Course 1	sec. 2, 3	24
Total.....		5	79

It thus appears that four classes are too large, but a different arrangement did not seem practicable with the present teaching force.

Very respectfully,

(Signed) )

GEO. W. DROKE,

Professor of Mathematics and Astronomy.

## REPORT OF COMMITTEE ON WORLD'S FAIR.

DR. H. S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—At the forthcoming World's Fair, to be

held in St. Louis in 1904, an effort will be made for a larger educational exhibit than has ever been made in the history of expositions. A separate educational building will be provided, and it is the intention, as stated by the chief of the Department of Education, "to collect under one roof a comparative display of educational systems and educational agencies from all the leading nations of the world." He further states: No effort or expense will be spared to secure a comprehensive display which will show not only the present status of education, but its historical development.

It is probable that all the leading universities of the country will exert themselves to make creditable displays, and especially will those within the original Louisiana Territory do so. In this, the University of Arkansas must not fail to participate. The people of Arkansas do not desire that their leading educational institution to go unnoticed on this occasion. State pride and State interests demand that we show the world what educational attempt is being made by the University of Arkansas.

The material displayed by all departments excepting that of botany will be furnished without making any draft on the special appropriation for the University exhibit. Most of that requested for the botanical display will be necessary to defray the traveling expenses necessary in making the collection.

Respectfully submitted,

(Signed)

A. H. PURDUE,  
C. E. HOUGHTON,  
Committee on World's Fair.

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## REPORT OF MINING ENGINEERING.

DR. HENRY S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—I respectfully call your attention to the need that exists in the University of Arkansas of a course in mining engineering. The industry of mining, which has during all historic time been one of the chief

sources of wealth, and added so greatly to the comfort and happiness of mankind, has within the last few decades made great progress in methods of mining operations and ore treatment. The wasteful methods of a few decades ago can no longer be followed, because, in some cases, of the keen competition between different mines or different regions; or, because, in other cases, of the possibility of the deposits of some of our most useful ores becoming exhausted.

While recent years have witnessed great advances in methods of taking ores from the earth and subsequent treatment of them, the mining industry is still in a crude state as compared with the possibilities for future development, and future demands that will be made for the refined methods; but progress in mining depends on those who take it up, having had at least a fair degree of training in the sciences on which the business of mining rests.

The mineral deposits of Arkansas will become a source of great wealth to the State when they receive the attention their importance demands; and nothing would be more conducive to their development than a few well trained engineers within our borders. But the demand for men trained to develop and operate mines comes from the world over. In the United States especially the mining industry has grown to enormous proportions. The value of the mineral products of this country reached the almost incomprehensible sum of over one billion dollars in the year 1901.

A distinctively mining school offers courses in geology and mineralogy, physics, chemistry, assaying, civil, electrical and mechanical engineering, mathematics, metallurgy, milling, English and the modern languages.

The small additional outlay necessary to enable the University of Arkansas to offer a good course in mining becomes evident when attention is called to the fact that provision is now made for all the instruction mentioned above except that of milling. As the mines of Southwestern Missouri and Southeastern Kansas are so near at hand, it would be an easy matter for students to visit those, and under a competent instructor, acquire

within a short time a splendid idea of milling methods, and at the same time get lessons in practical mining that would be invaluable. Also the coal mines of Arkansas and Indian Territory are within easy reach of the University.

I think it will become apparent to you that all the University needs to offer a good course in mining engineering is an instructor on that subject; and as such instruction is so intimately connected with that of geology, I respectfully request that the Department of Geology and Mineralogy be hereafter known as that of Geology and Mining, and that it be given an associate professor at a salary of \$1,500 per year, whose duty it shall be to give the necessary instruction in mining.

Respectfully,

(Signed)

A. H. PURDUE,

Professor of Geology and Mineralogy.

October 20th, 1902.

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### LIBRARY.

DR. H. S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—I have the honor to submit this statement of the needs and condition of the University Library. The library is patronized by 600 students, forty-five teachers and many visitors. The average loan of books is 100 per day. The demand for references and parallel readings is greater than we can supply with our limited resources. The library is specially deficient in reference books, general histories, religious history, general literature and agricultural books. Exclusive of government books we have only 4,000 books which are available in the sense of meeting the demand of patrons. One hundred books need rebinding. Our floor covering which has not been renewed in eight years is worn and discolored, and covers only half of the floor. Owing to the lack of lighting equipments, the library cannot be used at night, or on dark days with comfort. In view of the imperative needs of the library as herein specified, I respectfully ask that the appropriation be doubled and said fund be apportioned as follows:

# REPORT OF PRINCIPAL OF PREPARATORY DEPARTMENT.

DR. HENRY S. HARTZOG,

President of the University of Arkansas:

Dear Sir:—Supplementary to the report filed with your predecessor on June 5, 1902, I respectfully submit the following:

## THE OVERCROWDED CONDITION OF PREPARATORY CLASSES.

We have now enrolled in the Preparatory School three hundred and thirty-five students, one hundred and seventy-five in the first year class and one hundred and sixty in the second year class, in addition to many students classed as collegiates who have one or two studies in the preparatory classes. To care for these are seven instructors, including the principal. The following table shows the size of the various classes:

### FIRST YEAR CLASS

Subject	No. Studying	No. of Sections	Average size of Section
Arithmetic	193	6	32
Algebra	186	6	31
English	172	6	29
History	155	6	26
Latin	81	2	40

### SECOND YEAR CLASS

Subject	No. Studying	No. of Sections	Average size of Section
Algebra	133	4	33
Geometry	178	6	30
English	154	5	31
History	138	4	35
Latin	42	2	21

These sections will increase in size for some weeks yet, and will at no time during the year be materially smaller. It will require ten teachers to handle the preparatory classes with sections of twenty-five students as a maximum. We are expected to prepare students for freshman class in two years, doing in that time what



other schools find it difficult to do in three years. To accomplish this we should have ample teaching force and adequate equipments.

#### APPARATUS AND EQUIPMENTS.

The Preparatory School is practically without apparatus of any kind. We need books of reference for the English and history classes, maps and globes for the history and geography rooms, dictionaries, encyclopedias, etc., for the study halls, and some office supplies for the principal. The desks in the boys' study hall are very old; some of them are too small for our use, and we have about thirty or forty more boys than can be seated at all. To supply these and other needs a part of the contingent fund paid in by preparatory students should be appropriated to their direct benefit.

In conclusion, permit me to say that I make these requests in the interest of the boys and girls who come to us for an education, and who have a right to expect at our hands the very best instruction that can be given, and which we cannot give with over-crowded sections and no adequate equipment.

(Signed) Respectfully,  
J. W. KUYKENDALL.  
Principal of Preparatory Department.

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#### BRANCH NORMAL COLLEGE.

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#### REPORT OF THE PRINCIPAL.

*To His Excellency Jefferson Davis, Governor and ex-officio President, and the Board of Trustees of the University of the State of Arkansas:*

Gentlemen:—In reference to the condition and prospects of the Branch Normal College, for the current year, I have the honor to submit the following report and suggestions for the action of your honorable body and such consideration as they may merit, with the hope that they may meet your approval and receive such action as may be deemed wise and expedient.

## A SURVEY OF THE YEAR.

The past year has been one of unusual strain upon the institution, as will readily appear from the enumeration made below; but it may be safely asserted that it has not suffered materially therefrom, but has made all the progress that could reasonably be expected.

The first of the hindrances to which illusion is made was the erection of the "annex," which was in progress during the first quarter of the year, so that the passage-ways were encumbered with builders' material; and while classes were reciting in one part of the auditorium, workmen were laying flooring in another, or painting, or plastering. Moreover, the boys from the shops were, during that time, on the hands of the instructors of the literary department and suitable arrangements had to be made to employ their time, which made necessary an entire re-arrangement of the program.

The second hindrance was that, during the month of November, 1901, there occurred the death of Mrs. Eliza A. Gaines, who had for some years acted as house-keeper at the Dormitory, in the absence of my wife, who was absent for the sake of her health. Mrs. Gaines was sick for several weeks before her death, and I was thereby put to much inconvenience and expense, until my wife returned.

The third hindrance was the outbreak, in the Dormitory, of an epidemic of smallpox, which caused the Dormitory to be under quarantine during the month of February. I am happy to say that after I was apprised of the nature of the disease, I succeeded in confining it to the parties originally infected, so that while there were seventeen rooms occupied by girls, no other one contracted the disease. No case terminated fatally, and, the girls were scarcely at all disfigured by the disease. The epidemic created the usual amount of newspaper talk, owing to some misconceptions that arose from the fact of the city physician, under whose protection I acted, leaving the city, in the midst of the time, but upon his return the whole matter was satisfactorily explained. I feared that the disease would create a panic among the students, but such was not the case. The

only effect was that quite a number who intended to come were kept away and finally concluded not to come at all. The enrollment for the year was 123 males and 97 females—quite an increase in the latter, but not much in the former. The general deportment of the students has been very good, but there were some exceptions, and the faculty felt compelled to dismiss four or five from this institution. The order of the Board to have the sheds torn down was virtually complied with, except as to a woodshed, which I retained by the consent of Directors Langford and Mitchell, as I actually needed some place to store my fuel. I did not avail myself of the permission of the Board to erect a stable “in the northeast corner,” as it would have been in one of the most public places on the whole campus, and, moreover, I had no need of a stable, having no horses in town. The pond has been filled up and I have got rid of all the ducks and geese.

#### THE CAMPUS.

During the past year the campus has been, during inclement weather, almost completely impassible; the drainage being inadequate, and there being need of more walks. The trees are also too thick, and it would be a great improvement if at least half of them were cut down. This, however, should not be done at random, but with due regard to the principles of landscape gardening. The campus can be made one of the most beautiful places in the State, at a very slight cost, and with some addition to the fencing can be protected from the intrusion of vagrant small animals.

#### THE MECHANICAL DEPARTMENT.

In my opinion it would be much to the usefulness of this department if some vocations could be taught which can be carried on without an outfit of costly machinery, such as tailoring, shoe-making, mattress-making, etc. Some of our boys have been attracted to such institutions as Tuskegee, because they think there is a greater choice of trades there. I think it would be an advantage to the institution to have a small printing outfit and

issue a monthly paper, as is done by similar institutions elsewhere. Some of these are scarcely larger than the sheet upon which this is written, but I think that they do much good in several ways.

#### SEWING DEPARTMENT.

I am satisfied that this department deserves credit for the increase in the number of females, and thereby contributes much to the success of the institution. Its exhibits have attracted much attention and have secured the approval of competent judges. I hope that it may be in the power and inclination of the Board to increase the salary of the instructor therein, as she has had some desirable offers from other parties. I would also recommend the purchase of at least four more machines, and indeed a greater number is desirable.

#### THE TYPEWRITING.

This department has been quite successful and has turned out some very respectable operators. Some of these have secured permanent positions and some have made some extra money by job work, which has helped them along in paying their expenses. I find also that the typewriters have improved the students materially in spelling, punctuation, letter writing and other departments of language. An addition of about six more machines, of different make from those we have, would be of great advantage. The use of different machines is to make the students familiar with the working of all kinds.

#### THE LIBRARY.

Our supply of books has greatly outgrown the capacity to store them, and hundreds of volumes are simply piled upon the floors. If suitable arrangements could be made for their proper accommodation, I would take great pride in cataloguing and arranging them for reference. It would be a decided advantage also to supply the library with some good current literature, magazines, periodicals and newspapers.



### THE DORMITORY.

This part of the institution is the one which needs the most improvement, as it has never been properly fitted up and the little that has been placed in it has been almost destroyed by constant use. Nominally, it has a laundry attached to it, but that laundry is never of any service whatever. In order to be of any service, it should be suitably supplied with tubs, mangles and wringers, of all of which it is entirely destitute. It should also have a constant supply of hot water as well as cold. The Dormitory also, as well as the laundry, needs a suitable heating apparatus, and as the buildings were located expressly for this purpose, I have hoped for many years to have this greatly needed improvement. I have carried on this department under the greatest disadvantages and at positive losses for the benefit of the institution. The roof of the building has some very bad leaks, and a good part of the flooring is badly rotted. The parlor furniture needs a good deal of upholstering. A piano should also be added to the equipment. Besides these things, there is needed a water-closet for males, with sewer connection, and a small building which could be used as pest house in case of communicable diseases. Also the institution should have an United States flag.

### THE LABORATORY.

Another pressing need is a properly furnished laboratory. The institution has an excellent supply of physical apparatus, which is used under great disadvantages from the manner it has to be kept in order to insure its safety; that is, packed up in closets and drawers, in many cases "knock down." The expense of fitting up a suitable room is so small and the advantage of having it would be so great that I hope that this improvement may be in the power of the Board to grant.

### THE JANITOR.

The enlargement of the building has added largely to the work of the janitor, and I think that there should be a corresponding increase in his salary.



## THE CORPS OF TEACHERS.

There is no other institution in the country, to my knowledge, with the same amount to do that has so small a corps of teachers. Many of the institutions for colored youth have double or treble the number of teachers. The Branch Normal College needs some additions very badly, and if only two were added, it would be of decided advantage. Under existing circumstances, every hour of each teacher is constantly occupied, the principal not excepted, and the time of some recitations is really too short. I hope that it may be in the power of your honorable body to increase the number of teachers. In so doing, if possible, some regard should be had to the denominational affiliations of the new teachers, as it would not probably be advisable to allow any denomination to have too much preponderance in the faculty.

In conclusion, I may remark that I have, in some instances, repeated recommendations heretofore made at a time when they were merely anticipatory, and that I repeat them now in reference to a condition that actually confronts the college. There are several denominational institutions in the State with buildings, equipments and facilities very little, if at all, inferior to this institution, and they have a zealous and efficient corps of agents in the ministers of the denominations. In my opinion, the only way to meet the rivalry of these institutions is the use of some of the means which I have alluded to above.

## ADENDA.

Since the above was written there are some other matters that have come to my recollection, and to which I respectfully call the attention of your honorable body.

These are as follows :

First. In my opinion there should be some arrangement by which students could complete a course in the mechanical department and receive a suitable certificate. That such has not yet been the case has excited some comment among the students themselves.

Second. The rooms of the sewing department needs

to be fitted up with drawers and exhibition cases, as is done in the Catholic school.

Third. The typewriting department would be much improved by being arranged with counters and desks, etc., in order that bookkeeping might be taught in a systematic way. This, I think, would be highly appreciated by many students.

Respectfully submitted,

J. C. CORBIN,  
Principal.

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## REPORT OF SUPERINTENDENT OF SHOPS.

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### BRANCH NORMAL COLLEGE OF PINE BLUFF.

Pine Bluff, Ark., June 12th, 1902.

*To His Excellency, Governor Jeff Davis, and Other Members of the Board of Trustees of the University of Arkansas:*

Gentlemen:—I have the honor to submit this report covering the work at the Branch Normal College for the year ending May 31st, 1902. The brick additions to the college and shop buildings as provided for by an act of the General Assembly, approved May 23rd, 1901, plans and specifications for same having been submitted to, and approved by your Board at your last annual meeting, were completed in accordance with said plans and specifications on the 2nd of November, 1901, and are first-class and substantial buildings.

Extensive repairs were made on the Dormitory, such as a new roof, patching plastering, new base-boards and mouldings, entire interior white-washed, new joist and floor in kitchen, windows repaired and new lights put in, brick work on the front repaired and painted.

Water Closets—The closets have been overhauled and are in good shape.

Heating System—The system was extended to accommodate the new additions, and is now complete.

Shop Building—This building has been greatly en-

larged, equipment re-arranged and additions made thereto, enabling us to accommodate a much greater number than heretofore.

I respectfully call your attention to the fact that several years ago your Board, acting upon a communication from Washington, setting forth the accumulated Morrill fund in the Branch Normal Treasury, must be expended in accordance with the law governing same, and that a reasonable time would be allowed to do so, or else the appropriation would be discontinued, ordered all salaries to be paid from the Morrill fund. In this way the fund has been reduced until to-day there is a balance only of \$647.54, and one month's salaries yet to be paid. There is a balance to the credit of the salary fund of \$6,230, which has been held since the above action was taken, and I would suggest that the salaries of the literary teachers be paid from this fund as originally.

On March 1, Mr. E K. Braly resigned as instructor in machine and forge department of our shops, and Mr. J. L. Ross, late of the University shops, succeeded him. I feel safe in saying that no better man for the position can be found, and heartily recommend his appointment. I hand you herewith my bond as treasurer of the Branch Normal College for the year ending June 30th, 1903, and respectfully offer myself for re-election. I have the honor to remain,

(Signed)

Yours,

W. S. HARRIS,  
Superintendent of Shops and Treasurer.

APPROPRIATION ASKED FOR BRANCH NOR-  
MAL COLLEGE.

For improvement of grounds.....	\$1,000
For improvement of building.....	750
For Library .....	500
For student labor .....	500
<hr/>	
Total .....	\$2,750

JEFFERSON DAVIS,  
Chairman of the Board,  
H. N. PHARR,  
W. H. LANGFORD,  
C. C. HAMBY,  
H. STROUP,  
J. C. MITCHELL,  
V. Y. COOK.

## FINANCIAL REPORT OF THE SECRETARY OF THE BOARD OF TRUSTEES.

Following is the financial report of the secretary of the Board of Trustees, showing the receipts and expenditures on account of all the departments of the University of Arkansas, the Experiment Station and the Branch Normal College, for the two years, beginning the first day of June, 1900, and ending the first day of June, 1902.

### UNIVERSITY OF ARKANSAS

Departments	Receipts	Expenditures	Balance
Salary.....	\$ 40,291 60	\$ 30,628 09	\$ 9,663 51
Student Labor.....	6,679 93	4,745 27	1,934 66
Secretary to President.....	987 25	459 95	527 30
Civil Engineering.....	3,142 54	2,056 23	1,086 31
Postage.....	1,001 01	319 16	681 85
Library.....	1,512 08	847 92	664 16
Horticulture.....	3,043 95	2,358 76	685 19
Elocution and Physical Culture.....	1,000 00	675 95	324 05
Contingent.....	8,207 24	5,632 92	2,574 32
Agriculture.....	2,266 35	1,379 32	887 03
Stationery and Printing.....	2,116 57	1,484 59	631 98
Fuel.....	4,195 22	2,564 36	1,630 86
Dormitory Matron.....	1,195 00	808 21	386 79
Campus.....	1,527 92	1,084 53	443 39
Mechanical Engineering.....	4,166 65	3,557 84	608 81
Mechanic Arts.....	1,500 00	765 94	734 06
Janitor.....	2,161 07	1,615 72	545 35
Plumbing and Filters.....	618 86	140 84	478 02
Museum.....	700 00	434 15	265 85
Morrill.....	36,530 30	36,530 30	.....
Trustee.....	1,273 13	769 64	503 49
History.....	203 12	133 37	69 75
Economics and Sociology.....	194 38	97 80	96 58
Philosophy and Pedagogy.....	267 70	78 42	189 28
Biology.....	1,359 76	876 70	483 06
Chemistry and Physics.....	2,703 01	2,107 58	595 43
Ancient Languages.....	247 00	141 39	105 61
Art.....	1,375 00	1,375 00	.....
Electrical Engineering.....	3,710 45	2,257 74	1,452 71
English and Modern Languages.....	325 70	265 84	59 86
Geology and Museum.....	214 30	214 30	.....
Hydrant and Sewer.....	15 91	.....	15 91
Infirmary.....	430 00	335 45	94 55
Interest on Bonds.....	32,737 01	24,258 15	8,478 86
Magazine and Annual.....	308 55	118 55	190 00
Mathematics and Astronomy.....	712 56	246 75	465 81
Military.....	1,000 90	381 83	619 07
Repairs.....	4,153 30	4,153 30	.....
Water.....	1,988 73	1,180 40	808 33
Geometry and Mineralogy.....	1,000 00	677 09	322 91
Dormitory Building.....	10,218 52	10,218 52	.....
Shop Building.....	2,000 00	2,000 00	.....
Bryan Medal.....	10 00	.....	10 00
Total.....	\$189,292 57	\$149,977 87	\$ 39,314 70



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# REPORT OF BOARD OF TRUSTEES—Concluded

## BRANCH NORMAL COLLEGE

Departments	Receipts	Expenditures	Balance
Building .....	\$ 591 00	\$ .....	\$ 591 00
Campus.....	260 40	226 99	33 41
Contingent.....	1,145 97	1,119 97	26 00
Fuel.....	401 78	327 82	73 96
Janitor.....	375 00	180 00	195 00
Library.....	638 25	224 46	413 79
Morrill.....	27,019 22	26,371 68	647 54
Repairs.....	506 07	465 53	40 54
Salary.....	9,030 00	2,800 00	6,230 00
Shop Building.....	800 00	800 00	.....
Main Building.....	5,000 00	4,969 02	30 98
Totals.....	\$ 45,767 69	\$ 37,485 47	\$ 8,282 22

## EXPERIMENT STATION

	Receipts	Expenditures	Balance
Congressional Appropriation.....	\$ 31,512 86	\$ 30,415 62	\$ 1,097 24
Contingent.....	2,165 85	1,850 53	315 32
Totals.....	\$ 33,678 71	\$ 32,266 15	\$ 1,412 56

S. E. MARRS, Secretary.







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02/04

UNIVERSITY OF ARKANSAS

BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

AND

OFFICERS

MADE IN COMPLIANCE WITH THE LAW

FOR THE

YEARS 1902-03 AND 1903-04

FAYETTEVILLE, ARK.

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1904.



# UNIVERSITY OF ARKANSAS

## BIENNIAL REPORT

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# BOARD OF TRUSTEES

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## REPORT OF BOARD OF TRUSTEES.

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*To His Excellency Governor Jefferson Davis, Governor of Arkansas.*

SIR: At the State Democratic convention, held at Hot Springs, Ark., June, 1904, the following resolution was unanimously adopted:

"We favor just and liberal appropriations for the University of Arkansas."

This solemn pledge for the just and liberal support of the University of Arkansas gratifies us beyond expression. The convention at Hot Springs represented the assembled wisdom of the dominant political party in Arkansas. The delegates were direct from the people. This resolution is the voice of the people demanding an enlargement of the facilities for higher education at the University of Arkansas.

In our judgment the time is opportune for a long step forward. As compared with other States of equal resources and similar conditions, the support given to the University of Arkansas has been humiliatingly small in past years. In spite of meager equipments and limited resources the University has pressed steadily forward, doing work that has commanded the respect and admiration of the educational world. The people of Arkansas appreciate the plucky struggle that the University has been making, and in a thoroughly representative convention, composed of all classes of people from every county in the State, have expressed a demand for more liberal appropriations. The party for which this educational platform was prepared has been triumphant at the polls and is overwhelmingly in power. We believe that the pledge will be redeemed in the same generous spirit in which it was made.



It is gratifying, too, to learn that the same liberal sentiments are entertained by the Republican party. The University is one institution for all parties. Never was the time more propitious than now, to enlarge the work. Our country has been blessed with prosperous seasons. The State treasury is in excellent condition. The University is enjoying unprecedented growth. The people want a greater University, and have the money to spend. Desire and ability have at last met together, and sore indeed will be the disappointment of friends of higher education if the legislature fails to make ample provisions for the needs of the University of Arkansas. We have kept in mind, however, that there are other public institutions in Arkansas that must have liberal support, and have therefore limited our requests for appropriations to those improvements that seem urgent and necessary for the efficiency of our work. The sum total that we ask for is larger than has been granted by previous legislatures, but is modest when compared with what most of the other States are expending for higher education. The State Democratic convention favors just and liberal appropriations. Liberality is a comparative term. Liberality in a poor State may be parsimony in a rich State. The fairest way to interpret the word liberal is to compare the appropriations of our State with the appropriations made by other States of equal resources and similar conditions: South Carolina has an area of 30,170 square miles, as compared with 53,045 square miles in Arkansas. South Carolina has only 463,000 whites, as compared with 815,752 whites in Arkansas. The State of South Carolina suffered much more from the late war and from the horrors of Reconstruction than did Arkansas. Let us now compare the States in the matter of higher education. The appropriations in South Carolina for higher education for two years were \$539,286.26.

Let us now compare with the neighboring State of Mississippi. Mississippi has 544,851 whites as compared with 815,752 whites in Arkansas. She has an area of 46,340 square miles, as compared with 53,340 square miles in Arkansas. Mississippi suffered as we did from the war and the subsequent period of Recon-

struction. The total taxable property in Mississippi is \$200,000,000. Last year Mississippi gave her public schools two and one-half million dollars, and to her institutions for higher education \$645,681.

## WHAT ARKANSAS GIVES.

Arkansas gave to the University of Arkansas at its last session, for two years, \$120,976.11. South Carolina, a smaller and poorer State, expends four times more than Arkansas. Mississippi about five times more.

In this connection, it may be interesting and instructive to show the incomes of some other universities. It is true that some of these States have larger resources than Arkansas, but it is also true that in most cases they are spending more in proportion to their means than the State of Arkansas. And in nearly all other States named, other schools are maintained at public expense.

University of Arkansas.....	\$ 120,976.11
University of California.....	900,000.00
University of Cincinnati.....	300,000.00
University of Colorado.....	260,000.00
University of Georgia.....	442,000.00
University of Illinois.....	446,000.00
*University of Kansas.....	284,000.00
University of Missouri.....	844,000.00
*University of Texas.....	540,000.00
*University of Virginia.....	300,000.00
University of Wisconsin.....	1,140,000.00
Washington University, St. Louis.....	498,000.00
University of Iowa.....	564,000.00
University of Indiana.....	280,000.00

These are but a few representative institutions. There are many other institutions, richer and larger. Harvard, for instance, has an income of nearly five millions for the biennial period.

As a result of the superior equipment of institutions in other States, many hundreds of our boys leave

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\* Kansas supports two other State colleges. Texas supports an A. & M. college. Virginia supports two other institutions.

the State every year. The railroads have brought the great colleges of our country close to the homes of the people. Many a man who wants to educate his boy in Arkansas sends him off because he cannot get in this State the special course desired.

### GROWTH IN ATTENDANCE.

We have referred to the gratifying increase in attendance. Over eight hundred students were enrolled last year, an increase of thirty per cent over any previous year.

This growth brings with it many new problems. The running expenses are now greater than ever before. Several important departments, such as Electrical Engineering and Chemistry, did not have money enough to meet their legitimate needs, and have been without funds for six months. This has worked a great hardship on the departments and the students. Materials and supplies are necessary for all laboratory work. Other departments have suffered because of not having enough teaching force. The English Department especially needs help.

### MORE DORMITORY ROOM.

We must appeal to your honorable body again for more dormitory room for the boys and girls. The dormitory at present will accommodate comfortably 140 young men. Many worthy boys are refused admission to the dormitory every year for lack of room. Board in the dormitory averages nine dollars per month; in private families fourteen dollars. The difference is forty-five dollars for a session of nine months. A small dormitory large enough to house 100 boys would save \$4500 per annum, and would enable many a poor boy to get through who at present cannot afford to board in private families. We therefore ask for a boys dormitory to cost \$20,000.

## GIRLS DORMITORY.

The proportion of girls to boys at the University is steadily increasing. It is becoming more and more difficult for girls to secure boarding places in private families. If the co-educational policy is to be continued—and practice has demonstrated its wisdom—adequate accommodations should be provided for the young women. The equipment of a small gymnasium is all that has been done for the girls. On the other hand two dormitories have been built for the boys; a special engineering hall has been erected for young men. Arkansas is the only Southern State that fails to provide special opportunities for her young women.

Georgia has a building for girls costing \$165,000. Georgia gives \$30,000 annually to her college for women, and 382 students were in attendance last session.

North Carolina has erected a special building that cost \$175,000, and gives annually for the education of girls \$456,000. Last year 450 girls were in attendance.

Louisiana has buildings that cost \$85,000, and gives \$40,000 per annum.

South Carolina has spent \$325,000 on buildings for the education of women, and appropriates annually \$65,712.51.

All other Southern States have made liberal provisions, although none of the other States are in as good condition financially as Arkansas.

We ask for appropriation for a building.....	\$35,000
Running expenses for two years.....	5,000
Matron for same time.....	1,500

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Total .....	\$41,500
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## MUSIC DEPARTMENT.

The Music Department needs new instruments. It owns three antiquated pianos, discordant in tone and battered by many years of hard usage. Most of the town schools in the State are better equipped with pianos than the University of Arkansas. The situa-

tion is a reproach to the institution. The instructor has had to refuse five students for lack of instruments, although an extra piano has been rented at the expense of the teacher. May we not urge that a reasonable appropriation be granted for this important work?

For the purchase of pianos and equipments we ask \$2,500.

## HOSPITAL BUILDINGS.

The University has no hospital. There is no public or private hospital in the city of Fayetteville. Sick students are housed in the dormitory with other students. If a patient is ill he cannot get the rest and quiet he needs. If the disease is of a contagious nature the other students are exposed.

A merciful Providence has thus far spared us from a general epidemic, although on several occasions we have had reason to be apprehensive of trouble.

Most of the public institutions of the country are equipped with hospitals. For the erection of this long needed and much needed building we ask for \$5000.

## GYMNASIUM.

Year after year petitions have been submitted to your honorable body by students and Faculty and Trustees. This constant reiteration comes from a deep seated belief that a gymnasium is a vital need of a large institution. A gymnasium will contribute to physical manhood, which is often the basis of mental and spiritual manhood. It will make the University of Arkansas more attractive, and will divert the stream of students going out of the State to institutions where gymnasiums are provided. We petition earnestly that \$12,500 be appropriated for a gymnasium.

## SALARIES.

At the last meeting of the legislature we petitioned your honorable body for an appropriation of \$55,000 for



salaries. This was the amount actually needed to defray salaries for two years. The amount asked for was based upon a close and careful estimate. The appropriation was reduced to \$40,000. The result is that the salary fund was exhausted in November. The Morrill Fund and other funds have been drawn upon to meet necessary expenses. If the fund is not enlarged this year it will become necessary to discharge some of the teaching force, which is already smaller than our work absolutely needs. For salaries we need \$65,000.

Many of the departments are overcrowded with students and should have assistant teachers. In one important department, that of Mining Engineering, there were not sufficient funds to employ a teacher, and this work has been retarded for two years. As compared with other institutions of similar grade the teachers in the University are paid small salaries. We lose good teachers every year because of superior inducements offered by richer colleges. We hope earnestly that the amount asked for will be granted. It is useless to construct buildings and to equip laboratories unless money is supplied to employ competent teachers. An enlargement of the teaching force is an imperative need of the University. Money expended for good teachers will make better students.

## WATERWORKS.

The University of Arkansas is still without adequate fire protection. The whole plant, erected at a cost of several hundred thousand dollars, may be swept away in a few hours. The Fayetteville Waterworks Company has improved its system and has installed a large pipe leading up Dixon street to the college campus. The pipes on the campus were put in many years ago, and are too small to give sufficient pressure to throw the water on the buildings. The cost of installing pipes on the campus falls on the University. It is a grave situation that should be remedied without delay. The cost of putting in a new system of pipes is \$3351, as per estimate attached.

## CHEMICAL BUILDING.

The little chemical building is in a dilapidated condition and is too small for the large classes. It was built from meager appropriations and has been patched and remodeled many times. We have had this building carefully examined three times by three architects. A report on its condition is herewith attached. By proping and patching it may be made safe for a few years, but if left in its present condition it will collapse. The lives of the students should not be exposed to danger in this way. We respectfully ask for \$10,000 for a new chemical building.

## AGRICULTURAL DEPARTMENT.

We respectfully call your attention to the very slender support that has been given the Agricultural Department of the University. The federal funds are given to the State to support an institution in which agriculture and mechanic arts shall be the leading subjects without excluding others. Good faith demands that we give proper support to this department, if we accept the benefit of the federal funds.

## EXPERIMENT STATION.

For instruction, improvement, maintenance and development of Arkansas Agricultural Experiment Station we ask \$55,500.

## THE APPROPRIATIONS.

The appropriations asked for are larger than have been granted in preceding years. If we are to keep pace with the educational demands of the day, a general expansion is necessary. When the totals are added, it will be found that the amount asked for is about half the amounts appropriated by our sister States of South Carolina and Mississippi.

## GENERAL SUMMARY OF NEEDS.

### NEW BUILDINGS.

Dormitory for young men.....	\$20,000.00
Dormitory for young women.....	35,000.00
Maintenance and equipment of same.....	5,000.00
Matron for same.....	1,500.00
Gymnasium, equipment and salary of instructor.....	12,500.00
New Chemical building.....	10,000.00
Building for Geology and Mining Engi- neering.....	20,000.00
Infirmary.....	5,000.00
Shop for Mechanic Arts.....	9,000.00
Central power plant.....	10,000.00

### MAINTENANCE FOR DEPARTMENTS FOR TWO YEARS, FOR RUNNING EXPENSES AND EQUIPMENTS.

Electrical Engineering.....	\$ 6,100.00
Physics.....	3,300.00
Mechanical Engineering.....	4,245.00
Biology.....	961.11
Ancient Languages.....	300.00
History and Political Science.....	950.00
Civil Engineering.....	3,124.00
Chemistry.....	3,475.00
Mechanics Arts and shops.....	3,655.00
Music.....	2,500.00
Preparatory Department.....	500.00
Philosophy and Pedagogy.....	2,050.00
Military Science and Tactics.....	1,400.00
Economics and Sociology.....	600.00
Mathematics.....	200.00
English and Modern Languages.....	500.00
Library.....	3,800.00
Geology.....	1,000.00
Mining Engineering.....	1,000.00
Museum.....	700.00
Elocution and Physical Culture.....	1,439.00
Art Department.....	700.00

Road Engineering for Good Roads.....	4,000.00
For instruction, maintenance, and improvement of the Arkansas Agricultural Experiment Station.....	55,000.00

#### MISCELLANEOUS ITEMS.

Salaries for two years.....	\$65,000.00
Insurance.....	2,000.00
Night watchman.....	1,000.00
Traveling expenses Veterinarian.....	1,600.00
Additional fireman.....	500.00
Fuel for two years.....	5,000.00
Student labor.....	8,000.00
Improvement of campus.....	500.00
Repair fund.....	4,000.00
Infirmity fund.....	500.00
Janitor service.....	3,000.00
Plumbing.....	500.00
Stationery and printing.....	1,500.00
Postage.....	600.00
Trustees meetings.....	1,200.00
Water.....	2,000.00
Secretary to President.....	960.00
Annual.....	200.00
Repairs of bath house and salary of matron..	1,000.00
Heating buildings.....	11,900.00
To complete Engineering Hall, including water, heat and-woodwork.....	11,500.00
Waterworks for fire protection.....	3,351.55

#### PRESIDENT'S REPORT.

In the biennial report of the University, you will find a discussion of many general matters of paramount interest. We have omitted reference to many of the propositions, not from lack of sympathetic interest, but to save space and prevent duplication.

Your attention is invited also to the various reports of the professors which give in detail the progress, conditions and needs of the various departments.

Respectfully submitted,

H. STROUP,

G. T. BRECKINRIDGE,

W. H. LANGFORD,

C. C. HAMBY,

J. C. MITCHELL,

J. C. SOUTH.





## REPORT OF THE PRESIDENT.

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*To the Honorable Board of Trustees.*

GENTLEMEN: I have the honor herewith to submit my report for the academic years 1902-1903 and 1903-1904.

In a growing institution, every biennial period has characteristics which distinguish it from all other biennial periods.

The most notable event of the period which closed last June was the phenomenal growth in attendance.

For the session ending in 1903 there were enrolled 629 students. Last session 814 students matriculated. This represents a growth of over thirty per cent, and is the largest enrollment in the history of the University. The indications are that the attendance this year will go even higher.

I have spent both my summer vacations in the field canvassing for students. For this work I have not received any extra compensation. During the past two years I have delivered seventy-four educational addresses at schools, picnics and other gatherings. I think this work has helped to make the University better known to the people of the State. I am sure that it has contributed to an increase in the attendance. In all parts of the State I have met with a cordial and sympathetic reception, which shows that the people are profoundly interested in the University.

For lack of time I have had to decline many invitations to deliver addresses to schools.

During the summer months valuable and appreciated assistance in canvassing has been rendered by Professors Brough, Dunn, Cole, Kuykendall, Johnson, Reynolds, Philbeck, Futrall and Droke. The canvassing that has been done for the University has not cost

the State a dollar, as the increase in matriculation fees from new students has more than covered all expenses.

It would pay to employ a good man to travel regularly for the University. It should be his special business to visit the public schools and the high schools with a view of establishing accredited relations. The experience of colleges in other States has demonstrated the value of such an officer.

The increase in attendance is very gratifying, but in my judgment the University deserves and should have a much larger enrollment than at present. As this is the only State institution for the higher education of the whites, at least twelve hundred students should enjoy its advantages. That number can be induced to come if the attractions and equipments are provided. The railroads have shortened distances, and consequently the University of Arkansas is in competition with every other university in the country. In my canvassing tours I meet many young men and women who prefer attending the State University, but who go to other States to take courses that we do not offer here.

Some large institutions in neighboring States are sending traveling representatives to Arkansas to solicit students. The number that go out of Arkansas every year is suprisingly large. Of course, we cannot afford to be exclusive or provincial. It is proper that many should go to the great universities in other States for special research, but it is equally obvious that a sound economic policy and State pride demand that opportunities be offered here for thorough and broad courses in the lines of work usually undertaken by State universities. The equipment of the University of Arkansas is considerably below that of similar institutions in sister States, and is utterly inadequate to the educational needs of the State. Industrially, Arkansas is going forward by leaps and bounds. Material progress unaccompanied by educational progress is not likely to produce a well balanced citizenship. Colleges and public schools are not supported by the State from charitable considerations for the poor and ignorant, but from an intensely selfish reason—to give strength and happiness to the commonwealth—and the horizon is ablaze with facts to prove that the reasoning is sound.

The United States is the only great nation that expends more for education than for war.

### NEW ENGINEERING HALL.

Another notable event of the last season was the building of the new Engineering Hall. This is occupied by the students in Civil, Electrical and Mechanical Engineering. From lack of funds, steam heat has not yet been installed, and some of the upper rooms are unfurnished. Our technical departments have been growing in numbers and popularity. The University cannot supply the demand for surveyors, electricians and mechanical engineers. It is no infrequent occurrence for all the members of the senior class to have secured remunerative positions before commencement day. This new building adds dignity to the technical branch of the University, where industry is married to learning, where the students learn something and learn how to do something.

The Engineering Hall shows a dominant motive in the choice of materials and designs. It has the appearance of a college building, and this cannot be said of all the other buildings on the campus. Permanent buildings for a State university should exhibit good taste, sound workmanship, and correct design.

### THE OLD CHEMICAL BUILDING.

The Chemical building is an instructive illustration of the difficulties encountered in trying to erect a building without money. The first appropriation of three thousand dollars was not sufficient for the construction of a solid and commodious building. It has been patched, veneered, braced and remodeled until now it is unsightly and unsafe. The walls are cracked and crumbling. The rooms are crowded. Chemistry is one of the most popular courses in the University. It is an essential study for the pursuit of agriculture. There is a large and growing demand for analyses of water, fertilizers and ores. Chemistry is a department that cannot be crippled without the most lamentable results

to the University and the agricultural and commercial interests of the State. Its importance will become more and more manifest every year. It would be wise economy to provide a suitable building for this department. The present buildings may be propped up and held together a few years longer, but the lives of the students should not be exposed to such a menace.

## INFIRMARY.

The need of an infirmary building for students is obvious. A few rooms have been set apart in the dormitory for sick students. Some of the good women of Fayetteville have contributed money and time in caring for the sick. The present arrangement of keeping sick men in the dormitory exposes all the other students to contagious and infectious diseases. There is no way to isolate students having scarlet fever, diphtheria, smallpox and measles. And even with the less communicable diseases, like typhoid fever, the opportunities for contamination are far too numerous to be satisfactory to those who feel a concern for the safety of the student body.

The Agricultural and Mechanical College of Mississippi has just erected an infirmary for students at a cost of \$11,500, although that institution has several hundred fewer students than the University of Arkansas. For an infirmary, I would respectfully urge an appropriation of at least \$5000.

## MINING ENGINEERING.

The Department of Mining Engineering, which was established two years ago, is in an embryonic condition because of the lack of funds. The legislature made an appropriation of \$1000 to employ a teacher for two years. It would be impracticable to engage the services of a competent instructor for one year for that amount. We have therefore been unable to employ an assistant teacher. The Professor of Geology has begun the work, however, and several students have enrolled. Our hope



is that the legislature will provide funds to enable us to carry on this important work.

Arkansas has vast and undeveloped mineral resources. Her deposits of zinc, coal, iron, lead, bauxite and fullers earth are attracting the attention of prospectors and capitalists. The boys of Arkansas should have an opportunity to learn the fundamental principles of mining engineering in order to develop and control the mineral wealth of the State. Missouri has nothing like the mineral wealth of Arkansas, but she supports at Rolla a splendidly equipped college to teach mining engineering and gives to that institution about \$75,000 a year for running expenses.

Our interesting and valuable Museum with the Department of Geology are quartered on the fourth floor. The Museum and Department of Geology need more room. A special building should be provided for the Mining Engineering, Geology and the Museum.

The chief mission of the University of Arkansas is to work for the material, intellectual and moral development of the State of Arkansas. It cannot accomplish these high ends without liberal support, and the expansion of the Department of Mining Engineering is one direct way to develop what in future promises to be a very important industry.

## GYMNASIUM.

The reports for many years past show that your honorable body has earnestly and repeatedly urged the legislature to establish a gymnasium. I trust that you will not consider my persistency offensive if I once again direct your attention to this pressing need. If there were reasonable doubts about the propriety and desirability of a gymnasium years ago, such doubts do not exist at present. If the unanimous testimony of learned faculties throughout the civilized world, and the experience of colleges in America and Europe are worthy of consideration, the desirability of a gymnasium is not even a debatable question. It is true that there are a few universities in America without gymnasiums, and all for the same reason—lack of money. All

colleges recognize the supreme usefulness of gymnasiums. We do not want a gymnasium to pander to the sporting proclivities of muscular youth. We want it to provide for the scientific development of the bodies of boys; and without a gymnasium, there can be no symmetrical and harmonious education of a body, mind and soul.

## THE SUPREME NEED OF THE UNIVERSITY.

The supreme need of the University of Arkansas is just and liberal appropriations for the enlargement of its work. Without money it cannot grow. It is idle to attempt the building of a great university without paying the cost. That the University has done a great work for Arkansas in the past is a fact of history known to all. That it has an even more important mission for the present generation cannot be denied. But to fulfill its heaven-born mission, more money must be provided. Colleges are not money making enterprises. They must depend upon private benevolence or public taxation. In the South we cannot reasonably expect donations from philanthropists because we have but few rich men. Two years ago one hundred millions of dollars was donated to Northern colleges by public spirited capitalists. During the same period the Southern institutions received less than half a million dollars. In the South the responsibility for higher education rests upon the church and the State. The churches are making noble sacrifices, but they have not been able to provide for industrial and technical training because of the cost of the work. If the State, therefore, fails to provide efficient training for her sons and daughters, they will grow up without that preparation which qualifies them for successful competition in agricultural, commercial and industrial spheres of activity. With the race problem that threatens our civilization, with Klondikes of natural resources awaiting the magic touch of scientific training, with ambitious boys and girls of splendid capacity, begging piteously for crumbs of higher education, we cannot afford to retard or discourage the only State institution for the collegiate training of whites.

All around us our neighbors have grasped the idea that higher education promises a solution of some of the problems peculiar to the South, and they are pushing forward energetically and enthusiastically in this noble work. Of course, it costs money. It will never be otherwise. But the investment pays golden dividends. Ignorance costs more than intelligence. Smaller and weaker States are building up institutions that go far beyond the University of Arkansas in the scope and magnitude of their work. Jails and poorhouses cost more than schools and churches.

Many of the modest requests submitted in this report have been presented before. These things were needed years ago, and the need is becoming more obvious and more imperative with the march of time. We are not recommending new fangled notions, nor are we asking for money to experiment with educational fads. Buildings and equipments for a chemical laboratory, for an infirmary, for a mining engineering department, for a gymnasium, for dormitories, for the Agricultural Department, for water mains, for more teachers, are all fundamental necessities for an institution that is designed to meet the educational needs of a progressive and intelligent citizenship.

## PUBLIC SCHOOLS.

The champions of the public schools may object here that we are proposing to make our system too heavy with higher education, and that the public schools should be developed in advance of the University. The University of Arkansas has always been, and will continue to be, the sympathetic friend and consistent advocate of public schools. A system of education without the public schools would be a crime, and without higher education, a farce. Their interests are mutual and identical. Higher education usually precedes and produces the lower education.

## PREPARATORY DEPARTMENT.

At the last session of the legislature there was developed some opposition to the Preparatory Department of the University. As soon as conditions permit, the Preparatory Department should be abolished. In the present educational system of Arkansas there are not many high schools to fit students for the Freshman class. Nearly all these high schools are in the towns. Students from the rural districts do not have the opportunity to get the necessary preparation for entrance to our lowest collegiate class. An untimely lopping off of the Preparatory Department would not hurt the towns, but would place the country boys at a very great disadvantage. At present five-sixths of the colleges in the United States find it necessary to maintain Preparatory Departments. In the annual report of the United States Commissioner of Education for 1900 the names of 480 colleges are given. Of these 401 maintain the preparatory departments.

In the University of Arkansas more than half the students in the Freshman class come from the Preparatory Department, about one-fourth from the public schools, and the others from scattering sources.

Abolishing this department would make but a small saving in the annual expense of the institution, because only a few teachers are necessary for its management, and laboratory equipments are not necessary for the work.

## GOOD ROADS.

The Good Roads problem is the greatest economic question before the American people. The interest in this movement is profound and universal. An estimate shows that Arkansas would save annually about four millions of dollars by having good roads. All who have studied this problem agree that one pressing need is more expert supervision, more trained engineers to build good roads. Many thousands of dollars are squandered annually by inefficient methods of road construction. Our Department in Civil Engineering has



been giving a large number of students instruction in practical road building. This excellent work, however, has been hampered by the lack of sufficient apparatus. It is recommended that an appropriation of \$4000 be asked for to supply the equipment for a course in road engineering.

## DEPARTMENT OF PEDAGOGY.

The object of the Department of Pedagogy is to prepare the trained teachers for the public schools. Arkansas is suffering from a scarcity of teachers. Many schools in the State are finding it difficult to secure the services of competent men and women. As a rule, one who has been trained especially for teaching in a school of pedagogy, does not abandon the profession. He not only makes teaching a life work, but is prepared to give expert and satisfactory service. Support, therefore, given to a Department of Pedagogy reacts favorably and immediately upon the public schools. The establishment of a dormitory for women would enable many girls to take this important work.

In course of time a Department of Industrial Pedagogy should be established. There are good reasons for the introduction of the study of Agriculture, and for departments of manual labor and nature study in the public schools. Satisfactory results, however, cannot be obtained unless teachers have been trained for this work. They can be trained in our agricultural, biological and mechanical departments. The girls, too, should have a chance to study domestic science, sewing and typewriting.

## STUDENT LABOR.

A large number of worthy boys have been helped to get an education by the Student Labor Fund. They have been paid ten cents an hour for manual labor. The demand for the labor has gone far beyond the supply of money. Boys who work command the respect of the student body. The use of this fund impresses upon the boys the great lesson of the dignity of labor. The gen-



eral feeling is that the only disgrace attached to honest labor is the disgrace of doing it badly. Many restrictions have been thrown around this work in order to prevent any abuse of the funds. Work is given only to bona fide residents of the State of Arkansas. The student who fails to make a good class and conduct forfeits his right to help from the Student Labor Fund. We have now two hundred more students than in any previous year of the University, and I respectfully recommend that the student labor appropriation be increased to \$8000.

### REPAIR FUND.

The repair fund appropriated by the last legislature has been found inadequate for our needs. Many of our buildings are old, and through natural care and wear are getting in a dilapidated condition. The basement floor of the main building is rotten. New roofs are needed on several buildings. There should be a general ornamentation of the campus with walks and flowers.

We hope that the full amount asked for will be given.

### THE DORMITORIES.

The dormitories are not in a satisfactory condition. They were built from small appropriations, and in many particulars are lacking in the equipments and conveniences that college dormitories should have. Under the present system, students are required to supply their own furniture for the rooms. Many of the boys, among whom are the best students in the University, have a desperate struggle to supply themselves with the ordinary comforts of life. Some of the furniture is rickety and battered. Having so many styles of furniture and equipment, gives the dormitory an unsightly and, to a military eye, an untidy appearance. In nearly all dormitories conducted by the State, the prevailing practice is to furnish cots, mattresses, tables and chairs. An appropriation of \$1500 would supply our dormitories with furniture, and would add very much to the

sanitary condition and aesthetic appearance. Money is also needed to construct more bath rooms and water closets. There are now only two bath rooms for all the students in the dormitory. Permanent janitors should be placed in these buildings to keep them in first class condition. These things cannot be done without money, and the improvements have not been made in the past because of the lack of money.

In conclusion I wish to express my appreciation of the hearty co-operation of the members of the faculty during the past two years. I do not know of a faculty more thoroughly consecrated to their work than the faculty of the University of Arkansas. We have many needs but they are all the needs of a healthy growth.

Thanking the Board of Trustees for their earnest efforts to build up the University, and with humble acknowledgments to the Supreme Ruler of the Universe who has watched graciously over the interests of our institution, I am,

Very respectfully yours,

HENRY S. HARTZOG,  
President.



# REPORTS OF DEPARTMENTS.

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## DEPARTMENT OF BIOLOGY.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I have the honor to submit the following report of the Department of Biology.

Classes are being instructed this session in the following subjects: General Biology, Botany, Bacteriology, Physiology, Entomology, Histology and Embryology.

The number of students (60) enrolled in the department is larger than usual, and interest in the work is growing daily.

The department receives regularly five biological journals. A number of very valuable volumes have been purchased for the biological division of the general library; and also some very valuable apparatus has been added to the laboratory.

On account of the increase of the number of students in the department, and more especially the number of hours required for laboratory work, and the indirect real instruction necessarily given each student, I ask that an instructor be elected to assist in the laboratory.

To meet the necessary current expenses of the department for the ensuing two years, not less than \$961.11 will be required, and in addition I ask that \$1400 be appropriated for an assistant.

Respectfully submitted,

F. W. PICKEL,

Professor of Biology.

## DEPARTMENT OF ANCIENT LANGUAGES.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I wish to ask from the next legislature an appropriation of \$300 for the maintenance of the Department of Ancient Languages for the ensuing two years. This department has been somewhat handicapped by the small appropriations made for it for several years past. The money is badly needed for the purchase of periodicals, lexicons, atlases, wall maps, Latin and Greek texts, special editions of classic authors, etc. Many of these books are expensive, but necessary for a good working library in the classics.

Very respectfully,

J. C. FUTRALL,

Professor of Ancient Languages.

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## DEPARTMENT OF HISTORY AND POLITICAL SCIENCE.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: The Department of History and Political Science needs the following:

1. Duplicate copies of books on medieval and modern history, for the Freshman class...\$100.00
2. Reference works on the political and constitutional history of the United States, for class in that subject..... 50.00
3. Reference works on political and constitutional history of England, for class in that subject..... 50.00
4. Works on political science and government, for class use..... 75.00



5. Reference works on elementary and international law . . . . .	50.00
6. Duplicate works on Greek and Roman history, for class use. . . . .	50.00
7. Book case . . . . .	25.00
8. Lantern and stereoptican slides of historical scenes, for illustrative purposes. . . . .	125.00
10. Congressional globe and United States statutes at large. . . . .	400.00
11. A copy of all Federal and State documents of which there are duplicates in the State library . . . . .	
Total . . . . .	\$950.00

The library is the laboratory for the Department of History and Political Science. To attempt to teach advanced work in either subject without a well equipped library is all but a failure. Mere text-book work in these subjects has long been discarded where they are taught scientifically. The department will never make normal progress until the legislature deals as liberally with it as with the laboratories in Chemistry or Geology. With the small appropriation of two years ago, we have merely made a beginning in equipping the department. The general and departmental libraries are the mired wheeled of the University.

It will be noticed that duplicate copies of books are called for. The imperative need for this will at once be apparent if it is remembered that a class of seventy-five is daily sent to a standard work in the library. If there is but one copy, it is a physical impossibility for more than a mere fraction of the class to get access to the book. Here the plan of library work breaks down and we are thrown back on text-book. Duplicate copies of standard works are as imperatively needed in teaching advanced classes in history as separate sets of the same apparatus are required for experimental work in the sciences. The growth of the department also emphasizes this need, the Freshman class, for instance, having increased from forty to eighty-five in two years.

A request for \$75 is made for books on politics and government. This section of the library has been

almost neglected. Students should have their attention called to the great political and social problems of the day while they are in college. Stereoptican slides and a lantern are asked for. This will enable the teacher to bring before the class the great historical scenes of the past, thus giving the student a knowledge that is alike vivid and life like. United State government documents are, moreover, a rich source of information in American history, political science and economics. Hence the request for a set of books that is becoming increasingly rare and expensive as the years go by.

The legislature is also asked to direct the Secretary of State to turn over to the University a copy of all State and Federal documents of which there are duplicate copies in the State library. At the suggestion of this department the last legislature passed such a bill, but it was among the measures which failed to reach the Governor in time for his signature. Through these State documents I hope to be able to interest the students in Arkansas history and Arkansas questions. I might add that a State Historical Society has been organized for the purpose of collecting and preserving historical material and for publishing matter of permanent historical value. The society deserves the encouragement of the legislature.

Very truly yours,

J. H. REYNOLDS.

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## DEPARTMENT OF MUSIC.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: In compliance with your request, I respectfully submit the following report and recommendations for the Department of Music in the Univer-

sity. About fifty students have enrolled in this department, necessitating the employment of an assistant instructor on the piano. Our work has been very much embarrassed for lack of rooms, and lack of instruments upon which students may practice. We hope the need of more room may soon be supplied when the engineering departments move out of the main building into the the new Engineering Hall, thus vacating several rooms in the college building.

The State has three pianos now in use in this department, most of them worn out years ago. Of these instruments, the vocal teacher, Miss Crawford, uses one, leaving one for myself and one for my assistant.

In order to give the large number of students who are here from a distance an opportunity to practice, I have been compelled to rent a piano, paying for it out of my private funds. And yet I regret to say that I have been compelled to turn away some five or six music students on account of the meagre facilities and poor equipment at my command. In most conservatories of music, and especially in State universities, it is customary to invite eminent musicians to give recitals for the benefit of the student body. It is a matter of deep regret to faculty and students alike that nothing of this character can be done here, as no artist who values his reputation, would consent to give a public recital upon any instrument we have in the college building.

The Department of Music, furthermore, cannot get up a creditable entertainment for commencement exercises with the old dilapidated instruments now in the building. I would respectfully recommend that an appropriation of twenty-five hundred dollars (\$2500) is urgently needed to purchase new instruments and equip this department.

Respectfully,

HAZEL A. YATES,

Department of Music.

## PREPARATORY DEPARTMENT.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: The following report for the Preparatory Department is respectfully submitted:

In the year 1900-01, the enrollment of preparatory students was 340, with about sixty-five collegiate students having preparatory studies, making a total of 405 students receiving instruction in the preparatory classes. In the last year, the enrollment had increased to 413 with ninety-six collegiates with back work, making a total of 509 students in the preparatory classes. The teaching force for the two years given was the same—eight preparatory teachers, and help from collegiate teachers amounting to the equivalent of one teacher. This year, with a slightly increased enrollment to date, we have one additional teacher. With the prospect for continuous growth for the next two years, the one great need of this department is an adequate teaching force. I therefore urge that, in the requests for appropriations from the next legislature, a sufficient increase in the item for salaries be made to give the Preparatory Department at least ten regular teachers.

I also request that an item for maintenance of Preparatory Department, \$500, be inserted. Two years ago the appropriation for this item was \$629, but \$500 will be sufficient for the next two years.

Respectfully submitted,

J. W. KUYKENDALL,  
Principal Preparatory Department.

## DEPARTMENT OF MECHANICAL ENGINEERING.

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*Dr. Henry S. Hartzog, President of the University of  
Arkansas.*

DEAR SIR: I have the honor to submit the following report for the Departments of Mechanical Engineering and Mechanic Arts.

The enrollment for the school year 1903-04 was as follows:

Enrollment in the classes in shop work.....	241
Enrollment in the classes in drawing.....	79
Enrollment in the classes in recitation work.....	71
<hr/>	
Total .....	391

The large number of students taking work in this department is evidence of the necessity for increased facilities for teaching the work, both in larger quarters in shop work and additional equipment for all of the work.

The laboratory and shop equipment were damaged to the extent of several thousand dollars by the fire of three years ago, since that time the funds for the purchase of two machines only, costing together only six hundred dollars, has been available.

We are at present teaching shop work in a building that cost only two thousand five hundred dollars, while before the fire the estimated value of the shop was eleven thousand dollars.

Some parts of the work we cannot teach at all, owing to the lack of space and equipment.

I would therefore urge that the Departments of Mechanical Engineering and Mechanic Arts be given sufficient funds and an additional instructor, that it may be able to give better instruction to the large number of students taking work in this department.



## APPROPRIATION NEEDED FOR 1904-1906.

### MECHANIC ARTS.

Additional shop building (fireproof) . . . . .	\$ 9,000.00
Pipe threading and cutting machine . . . . .	250.00
One drill grinder . . . . .	180.00
One shaper . . . . .	175.00
One pattern makers sawing machine . . . . .	250.00
One tool room lathe . . . . .	300.00
Six wood turning lathes . . . . .	420.00
One mortising machine . . . . .	175.00
Belting, shafting, pulleys, hangers . . . . .	380.00
Small tools . . . . .	400.00
Lumber, iron, coke, oil, supplies, incidentals, . . . . .	900.00
<hr/>	
Total . . . . .	\$12,655.00

### MECHANICAL ENGINEERING.

One automatic steam engine . . . . .	\$ 760.00
One gasoline engine . . . . .	600.00
One oil engine . . . . .	500.00
One hot air pumping engine . . . . .	350.00
One transmission dynamometer . . . . .	425.00
One oil testing machine . . . . .	120.00
One equipment for testing fuels . . . . .	270.00
Two small turbine water wheels . . . . .	200.00
Thermometers, speed counters, manometers, gauges . . . . .	150.00
One calorimeter . . . . .	25.00
One Coffin averaging instrument . . . . .	40.00
Two micrometers . . . . .	35.00
One large slide rule . . . . .	60.00
One extensometer . . . . .	80.00
Reference books . . . . .	35.00
Foundations, piping, supplies, incidentals . . . . .	600.00
<hr/>	
Total . . . . .	\$4245.00

## ON HEATING BUILDINGS.

I herewith submit an estimate for the heating of the University buildings for the year 1905-1906.

The statement below contemplates the heating of the main building, science hall, two dormitory buildings, shops and engineering hall, with steam heat from the central plant.

Additional piping will be necessary for connecting the new dormitory heating system with the central plant and putting steam piping in the wood shops. The report for the funds necessary for putting radiation in the new engineering building will be found in a special report.

The money appropriated for the pay of the assistant fireman for the past two years was not sufficient, as I could not find a reliable man that would work for the amount set aside for that purpose.

Enlarging boiler room and bunker for coal..	\$ 2,500.00
Additional boiler, stack and setting (100 h. p.) .....	1,600.00
Extension of main to new dormitory.....	600.00
Radiation in wood shop.....	300.00
Additional radiation in main building.....	400.00
Repairs for heating plant, tools, etc.....	700.00
Assistant fireman, salary two years.....	800.00
Coal for two years.....	5,000.00
Total .....	<u>\$11,700.00</u>

Respectfully submitted,

B. N. WILSON,  
Professor Mechanical Engineering and Superintendent  
Mechanic Arts.

## DEPARTMENT OF ELECTRICAL ENGINEERING.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I have the honor to report the present condition of the Electrical Engineering Department as follows:

All of the courses published in the 1903-04 catalogue are being taught to the largest classes in the history of the department.

As the contractor for the construction of the new Engineering Hall has failed to complete his work on time, we have been obliged to abandon our plans for occupying this building during the present session. Our class rooms have become very much congested, and it is impossible to give the best instruction to students in laboratory and drawing on account of cramped quarters. The transfer—by the Board of Trustees—of the work in Physics from the Department of Physics and Chemistry to the Department of Electrical Engineering, has added a large number of students to our already overcrowded lecture rooms.

Concerning the teaching of Physics, I beg leave to call your attention to the urgent need of suitably equipped rooms for use as a physical laboratory. The present equipment is very poor. What apparatus there is is in a very bad state of preservation. A complete inventory of this apparatus accompanies this report.

The funds appropriated by the general assembly for the maintenance of the Department of Electrical Engineering have been expended as follows: Storage battery plant for general use in laboratory and for lighting the building, \$2800; experimental alternate current machinery, \$2000; freight, express, laboratory supplies and incidentals, \$505.

Our classes now being larger, we will require additional equipment for practical work, and I must respectfully ask that you present to the Board our needs as follows:

Standard street railway equipments for dynamo laboratory.....	\$2500.00
Measuring instruments, photometric and bat- tery supplies.....	800.00
Switch boards and accessories, in new building	600.00
Laboratory supplies, for two years.....	500.00
Furniture and class room fixtures in new build- ing.....	700.00
Installation of machinery in new buidling....	500.00
Freight, drayage and incidentals.....	500.00
Total.....	<hr/> \$6100.00

### FOR WORK IN PHYSICS.

Laboratory equipments for teaching Mechanics .....	\$ 300.00
Laboratory equipments for teaching Heat.....	400.00
Laboratory equipments for teaching Light....	800.00
Laboratory equipments for teaching Sound....	400.00
Laboratory equipments for teaching Electricity	300.00
Laboratory piers, tables, cases, etc.....	600.00
Lecture room equipment.....	500.00
Total.....	<hr/> \$3300.00

In considering the above items, I beg leave to call attention to the fact that we will be obliged to equip new laboratories, as the present apparatus is almost useless.

Very respectfully submitted,

W. N. GLADSON,  
Professor Electrical Engineering and Physics.

## DEPARTMENT OF CHEMISTRY.

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*Dr. Henry S. Hartzög, President of the University of Arkansas.*

DEAR SIR: The increasing number of students entering this department seem destined almost to overwhelm its equipment and teaching staff. Exactly two years ago, in October, the number studying chemistry was seventy-five; now it is 168, with the possibility of two hundred being reached before the end of the session. We have found our equipment, especially in elementary chemistry and qualitative analysis, insufficient to accommodate the large classes, though it was more than enough during the last session. The enrollment so far is as follows:

Elementary general chemistry.....	103
Elementary agricultural chemistry.....	7
Qualitative analysis.....	18
Quantitative analysis.....	5
Organic chemistry.....	5
Industrial chemistry.....	2
Assaying.....	7
Water analysis.....	3
Agricultural and food analysis.....	3
Toxicology.....	1
Metallurgy.....	7
Inorganic chemistry.....	7
Total.....	168

Classes seem enthusiastic and good results are being obtained both in the lectures room and the laboratory. Nine students have classified in the new chemical courses.

There is enclosed with this report an itemized list of the needs of this department during the coming two years. The list is largely based upon the expenditure of the past two years, an itemized statement of which is also appended.



The wear and tear in a chemical laboratory is larger than in most other scientific departments, especially where the teaching force is small compared with the student body, and where a permanent janitor is not employed.

I am especially interested in obtaining a good chemical library for advanced work. It is impossible for seniors to do thesis work unless they are able to investigate the literature of their subjects. Further, the professors are continually called upon by the citizens of the State for technical information and for important chemical analyses. This latter work is very closely related to the industrial development of the State. To do it well, the chemist must have a good library and expensive apparatus. There are missing numbers from our unbound chemical journals, back numbers are wanting in some cases for twenty years back, our dictionaries are not complete, and many technical treatises are wanting or out of date. I sincerely hope that we may soon be able to remedy this defect.

Our gasoline tank is worn out, and we are very much in need of a gas mixer. The list of needs given is pruned down to its smallest size. This amount appropriated will place the department in reasonably good shape.

I enclose with this report a complete inventory of physical and chemical apparatus and equipment, the first having been turned over to the Department of Electrical Engineering and Physics.

#### APPARATUS NEEDED FOR 1905-1907.

Chemicals . . . . .	\$ 500.00
Apparatus . . . . .	1000.00
Books and periodicals . . . . .	300.00
Back numbers of periodicals . . . . .	150.00
Binding of periodicals . . . . .	50.00
Gasoline . . . . .	150.00
Freight, drayage and express . . . . .	200.00
Plumbing and sinks . . . . .	150.00
Quantitative desks . . . . .	200.00
Muffle and wind furnaces for assaying . . . . .	150.00

Reagent bottles.....	\$ 200.00
Gasoline tank and gas mixer.....	200.00
Distilling apparatus.....	50.00
Locks and keys for 150 desks.....	75.00
Sundry expenses.....	100.00
Total .....	<u>\$3475.00</u>

Respectfully submitted,

A. M. MUCKENFUSS,  
Professor of Chemistry.

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## DEPARTMENT OF PHILOSOPHY AND PEDAGOGY.

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*Dr. Henry S. Hartzog, President of the University of  
Arkansas.*

DEAR SIR: I have the honor to submit the following report of the work done and the needs of the Department of Philosophy and Pedagogy.

This department has had a constant increase in the number of students since my connection with the University two years past. There were seven Licentiate of Instruction diplomas granted June, 1903; ten, 1904; and there fifteen candidates for the L. I. next June, with a still larger class for the year following. This shows that there is an increasing demand over the State for professionally trained teachers.

Having the normal school in connection with the University presents some distinct advantages in that the students have a wider range of selection of subjects, larger and broader associations by coming in contact with students in the various departments, an opportunity of studying under a specialist in each and every subject, and last, but not least, implanting in such studies an inspiration to complete the B. A. course. Of the seventeen graduates in the L. I. course (which cor-

responds to the completion of the sophomore year) during the past two years, thirteen have completed or are still pursuing their studies leading to the bachelor's degree. ~~This~~ is a record that no separate normal school in the United States can equal. I state this merely to show the importance of thoroughly equipping and maintaining this department. As to the instruction of the students in their literary preparation, it is all that could be desired. As to their professional training, all that I can do is to give them the scientific knowledge of the subject, for I have not time to conduct a primary school where these candidates would have an opportunity to put into actual practice the principles learned under my instruction. Hence we greatly need funds for the equipment of a model primary room and a critic teacher in charge.

We are still teaching psychology, that science of the mind, which means so much to every profession, on the same old plan when it was treated as a philosophy and not as a science, simply because we have not the apparatus. Two years ago I asked for \$1000 with which to partially equip a laboratory of psychical research. I was given \$350. But this was not enough to do anything with owing to the costliness of psychological apparatus. Hence I have appropriated part of it to the purchase of books and periodicals for the department. Summarizing, the needs of the department are:

Assistant critic teacher.....	\$ 800.00
Equipment of model primary room.....	250.00
Psychological laboratory apparatus.....	800.00
Books and periodicals.....	200.00
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Total .....	\$2050.00

Respectfully submitted,

W. S. JOHNSON.

**DEPARTMENT OF MILITARY SCIENCE  
AND TACTICS.**

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*Dr. Henry S. Hartzog, President of the University of  
Arkansas.*

DEAR SIR: I have the honor to submit the following report of the Military Department of this institution.

The present law governing the Military Department relative to the selection of the cadet officers works an unnecessary hardship upon the department. In trying to obey this Act all responsibility relative to fraternity matters is thrown upon the head of the department. To obtain the greatest benefit of the Military Department, it should be permitted to act independently of these little discussions as to whether a fraternity is a good or bad feature in an institution of this class. Any legislation in the line of offering a relief to the Military Department will be greatly appreciated.

The department needs for incidental expenses, including care and repair of arms and equipments, purchase of flags for University building and other purposes, repair of band instruments, etc., \$1000. This amount is needed, as we have just returned to the Ordnance Department all the old arms and equipments that have been here for years. With new arms and equipments more care will have to be taken to keep them in order.

The armory is badly in need of repairs, and to put it in good condition will require \$400.

Very respectfully,

LANNING PARSONS,  
Captain Eighth U. S. Cavalry

## REPORT ON COMPLETING NEW ENGINEERING HALL.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I most respectfully submit the following estimate of the cost of completing and equipping the new Engineering Hall and providing for some very necessary improvements in the application of electric light and power to the University.

Steam heating for the new Engineering Hall	
.....	\$ 5,000.00
Steam tunnel from hall to boiler house.....	1,000.00
Plumbing for water and sewerage in Engineering Hall.....	2,500.00
Plastering and finish of second floor.....	1,200.00
Elevator.....	1,800.00
Total .....	<u>\$11,500.00</u>

There is a continually increasing demand by the various departments of the University for electric light and power. Our experimental machinery is entirely inadequate to supply this demand.

This laboratory machinery will soon be placed in the Engineering Hall, some distance from the chapel, and it will be necessary to make some provision for lighting this room.

Our dormitories are at present well lighted from the municipal plant. One of these buildings is connected with the steam heating system, and it is expected that the other will soon be heated from the same source. This necessitates a night fireman, who could also tend the dynamo to light the chapel and dormitories, thus effecting a considerable saving to the dormitory students.

I would respectfully ask that the legislature be requested to appropriate a sum of money to build a small central station to supply the University with light and power. An approximate estimate of the cost of such a plant is as follows:



Brick engine room adjoining the present boiler house.....	\$ 1,000.00
Direct connected dynamo and engine, 75 to 100 kilowatts.....	5,000.00
150 horse power boiler.....	1,800.00
Wire, line construction, etc.....	2,200.00
Total .....	\$10,000.00

Respectfully submitted,

W. N. GLADSON,  
Professor of Electrical Engineering and Physics.

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## DEPARTMENT OF ECONOMICS AND SOCIOLOGY.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: Since the introduction of the elective system in the University the study of Economics and Sociology, involving as it does problems of vital civic and business interest to the young American, has become more popular with the student body.

That this, the youngest department of the University, is rapidly growing may be seen from the fact that the average departmental enrollment for the past two sessions has been 150, nearly three times the number enrolled in any preceding session. This estimate does not include two sections of Preparatory Civics, numbering over one hundred, which I teach in addition to the regular work in Economics and Sociology.

The University courses offered in the department embrace general economics (two sections), money, banking and transportation, public finance and taxation, the tariff and trusts, socialism and social reform, the industrial history of the United States, sociology and charities, business and corporation law.

My predecessor asked for and secured an appropriation of \$200, and I respectfully submit that the three-fold expansion of the department warrants an appropriation of \$600 by the next legislature.

A tabulated statement of the needs of the department is herewith appended.

# APPROPRIATION NEEDED FOR 1905-1907.

## A.—For Books—

(1) General Economics.....	\$100.00
(2) Corporation and Business Law.....	100.00
(3) Money and Banking.....	50.00
(4) Finance and Taxation.....	50.00
(5) Tariff .....	50.00
(6) Trusts .....	50.00
(7) Sociology and Charities.....	50.00
(8) Industrial History.....	25.00
(9) Transportation .....	25.00
(10) Socialism .....	25.00

B.—For Magazines..... 50.00

C.—Stationery and miscellaneous items..... 25.00

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Total .....\$600.00

Very respectfully,

CHARLES HILLMAN BROUGH,  
Professor of Economics and Sociology.

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## DEPARTMENT OF LIBRARY.

# APPROPRIATION NEEDED FOR 1905-1907.

Books .....	\$2000.00
Floor covering.....	400.00
Lighting .....	100.00
Book cases .....	250.00

Magazines, papers, etc.....	\$ 300.00
Binding magazines.....	600.00
Stationery, postage, etc.....	150.00
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Total .....	\$3800.00

Respectfully,

ADA PACE,  
Librarian.

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## DEPARTMENT OF CIVIL ENGINEERING.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I have the honor to submit the following estimate of the needs for the proper maintenance and growth of this department for the years 1905-07.

The very material increase in the past two years in the number of students pursuing this course, will necessitate an appropriation slightly above that requested two years ago.

### SURVEYING.

Two transits.....	\$ 400.00
One Y level.....	125.00
One compass.....	60.00
One astronomical transit.....	325.00
Six tapes.....	36.00
Three leveling rods.....	45.00
Three hand levels.....	18.00
Two plane tables.....	50.00
Surveying camp for two years.....	150.00
Repairs .....	100.00

## ENGINEERING LABORATORY.

One machine for impact tests.....	\$ 300.00
One set cement sieves.....	6.75
One sand test sieve.....	4.75
One 3000 pound transverse testing machine..	375.00
One assay furnace.....	40.00
One blow pipe and tank.....	23.00
Piping laboratory for water and gas.....	200.00
Materials for testing.....	75.00
Freight and expressage.....	75.00

## DRAWING ROOM.

Twenty-five drawing tables.....	\$ 150.00
Lockers.....	50.00
Case for filing drawings.....	25.00
Two protractors.....	30.00
Twenty-four stools.....	36.00
Fitting up blue print room.....	175.00
Drawing room supplies.....	50.00
Books, binding and technical journals.....	200.00
Total .....	<hr/> \$3124.50

As set forth in my last report, we are very much in need of a large testing machine. A few reasons for making this request are as follows:

In order for an engineer to properly interpret formula concerning the strength of materials, it is necessary for him to know how the tests on which such formulas are based were made. With the present interest manifested in the Good Roads movement, it will be but a short time until such improvements will be made in our own State, necessitating men trained in this particular line of work.

Each year we have requests from manufacturers of common and paving bricks, throughout the State, to make tests for them, but at present we cannot comply with these requests.

There are very few State institutions where they are not equipped for this important work.

To provide this equipment will, alone, require an appropriation of \$4000, making a total of \$7124.

Very respectfully submitted,

J. J. KNOCH,  
Professor of Civil Engineering.

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**DEPARTMENT OF ENGLISH AND MODERN  
LANGUAGES.**

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*Dr. Henry S. Hartzog, President of the University of  
Arkansas.*

DEAR SIR: I have the honor to submit the following explanations asked for the Department of English and Modern Languages:

This department is suffering from a lack of teaching force. Within a comparatively short period the number of modern language teachers has been reduced from four to three, whereas the number of students in the department has at the same time increased tremendously. Just now the three professors would handle the English and German classes properly, if there were no classes to instruct in French, Spanish and Italian. There should be a specialist in "Romance" languages to teach French, Spanish and Italian—a scientifically trained graduate of one of the great American or European universities. Such a man can be secured at an initial salary of \$1250 a year. If such a teacher cannot be provided we shall have to drop French, Spanish and Italian from the collegiate course. This step would be deplorable in the extreme, but much preferable to crippling all the work in English and Modern Languages.

Two years ago the appropriation for this department was (apparently through a typographical or clerical error) cut down from \$250 (allowed in 1901) to \$150. This sum had to suffice in the largest department in the college for the purchase of standard works and



reference books in five languages. We need \$500 for such books and the current expenses of the department the next two years.

### APPROPRIATIONS ASKED FOR.

For the salary of an Adjunct Professor of French, Spanish and Italian, two years..	\$2500.00
For standard authors and reference books in English, German, French, Spanish and Italian . . . . .	500.00
Total . . . . .	<u>\$3000.00</u>

Respectfully submitted,

J. W. CARR,  
Professor of English and Modern Languages.

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### DEPARTMENT OF MATHEMATICS.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I respectfully ask for an appropriation of two hundred dollars for the Department of Mathematics and Astronomy for the two years ending June, 1906.

For books for the mathematical library.....	\$150.00
For mathematical and astronomical journals and magazines.....	25.00
For apparatus.....	25.00
Total . . . . .	<u>\$200.00</u>

Very respectfully,

G. W. DROKE.

## CONDITION OF THE CHEMICAL LABORATORY.

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OCTOBER 22, 1904.

*Dr. Henry S. Hartzog, President of the University of  
Arkansas.*

DEAR SIR: During the summer of 1903 students were employed under my immediate supervision in improving and enlarging the equipment of the building then devoted to both chemistry and physics. These changes were necessitated by the increasing number of students and the general inconvenience of the building. The object attained was more fully to adapt the upper floor to chemistry and the lower floor to physics. Since that time the Department of Chemistry has grown so rapidly, that early in October of this session the upper floor became inadequate to accommodate all the laboratory students. It was thus a wise provision on the part of the Board of Trustees to devote the building entirely to chemistry. But this necessitated the remodeling of the lower floor, which is now only adapted to instruction in physics.

The root of the matter, after all, is that the building at its best is poorly planned and is still more inconvenient as a whole for instruction in chemistry. With eye to the future, it is thus evident that money could be more economically expended now in the entire remodeling of the structure, resulting in a modern chemical laboratory, the pride of the University and the State, than in sinking funds from time to time in a building whose plan is fundamentally wrong.

With your approval, therefore, I requested Mr. O. M. Gates, the architect upon whose plans Fayetteville's opera house is now being erected, to estimate the cost of remodeling. After a careful examination of the building, he reported that it was in a very bad condition, and that part of the walls as they now stand could not be used in the remodeled structure. I then requested Mr. D. C. Wurtz, architectural superintendent of Wash-

ington county's new court house, also to examine the building. After an exhaustive investigation, the two architects have reported as follows:

OCTOBER 21, 1904.

*Dr. A. M. Muckenfuss, Fayetteville, Ark.*

DEAR SIR: In accord with your instructions, we have made a careful investigation into the conditions of the Chemical Laboratory Building, University of Arkansas, and find the following facts:

1st. That the building has been placed on insecure earth footings, the excavation having not been carried deep enough to reach solid earth.

2nd. That the foundation walls of rubble stone supporting the entire structure, including the load of the roof and its wind pressure, are very defective in construction and material used.

3rd. That the walls of the superstructure in themselves are a greater load than the foundation and its earth bearings will safely sustain. Owing to serious fractures in these walls, resulting from the condition of the foundations, they have become very defective and unsafe, showing fractures and checks that indicate that the building is still in process of settlement.

4th. On account of the lack of proper bonding and tensile strength, the building is liable to collapse at any time.

5th. In addition to these facts, the condition of the roof is such that its weight and thrust throw an excessive strain on the brick walls, which increases the danger of collapse during a heavy wind pressure.

Respectfully submitted,

D. C. WURTZ,  
O. M. GATES.

So far as has been attained, the chemical laboratory was erected with a legislative appropriation of \$6000, one-third of which was expended for the addition to the building. My predecessor, in his last inventory, estimated the value of the building at \$5000. We see the

real cause of the trouble. It is absolutely impossible to erect a permanent structure to accommodate two hundred students in the sciences at a cost of \$6000. Further, it is now understood that it is practically impossible to secure a good foundation upon the present site, because the land there is "made land" to the depth of about ten feet. The fill is said to have been made about the time of the erection of the main building of the University.

There is enclosed a report from Mr. O. M. Gates upon the probable cost of rebuilding the chemical laboratory, with blue print floor plans for the same. I recommend to you that the Board of Trustees be requested to ask of the legislature an appropriation of ten thousand dollars for this purpose, including the replacing of desks, shelves, cases, hoods and plumbing, using as far as possible the material of the present structure.

At the present price of labor and material, it would probably cost \$12,000 to duplicate the building as it now stands. Calculating the value of the material at \$2000, \$10,000 more will be necessary to obtain a structure of the same dimensions, but of vastly increased convenience and greater beauty.

When one considers the importance of a modern chemical laboratory to the future industrial development of Arkansas, a State of vast mineral and manufacturing resources, one can but believe such an appropriation to be fully warranted. But when we think of the possible results to human life from the collapse of the present structure, we must conclude that this appropriation is demanded.

Respectfully submitted,

A. M. MUCKENFUSS,

Professor of Chemistry.

## DEPARTMENT OF AGRICULTURE.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: The Department of Agriculture was put in my charge the first day of July, 1904. There are forty-five students enrolled in this work at present. The urgent needs of the department are buildings and equipment for instituting thorough courses in agriculture, dairying and veterinary science.

I hope it will be your pleasure to urge our next legislature to make liberal appropriations for this department in order that the very best opportunity may be offered our "farmer boys" to prepare themselves for their life work.

Respectfully submitted,

GEO. A. COLE;  
Professor of Agriculture.

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## DEPARTMENT OF HORTICULTURE.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I have the honor to submit a report of the Horticultural Department of the University of Arkansas for the biennial period ending June 1, 1905.

Seventy-one students have registered in this department during the past two years. This number, although not large, represents distinct gains, and as good a growth as could be reasonably expected. Instruction has required from twelve to fourteen hours per week. Interest in the work offered in this department, and through the State, and the prospect is good for further growth, especially with encouragement in the way of better and enlarged facilities for instruction.



The department is not as well equipped as similar departments in other schools of this character, and is constantly feeling the need of better facilities, lack of teaching force and my own time being so fully occupied. Some lines of practical instruction suffer for want of suitable provision for them. Classes are held in a small office at the Experiment Station. There is not room there for the collections of illustrative material used in class room instruction. My time is very much broken up among a variety of details, being divided between the University and Experiment Station, embracing class room instruction, experiment work in horticulture and entomology, State inspection of nurseries, attention to a large correspondence with farmers and fruit growers, and numerous incidental details. It is to be hoped that the Honorable Board of Trustees will carefully consider the needs of the department, and provide liberally for the horticultural instruction in the University—education which means development of the State's resources and increase in its wealth.

Substantial improvements have been made in the grounds of the department. The list of varieties of fruit trees for trial and instruction has been considerably increased. A large number of shade and ornamental trees have been grown for further use about the grounds and campus. The greenhouse, which was in need of repairs, has been overhauled and painted. A number of insect cases of the most approved pattern have been provided for the growing collection of economic insects used in class room instruction and reference. The department has assisted in the improvement and care of the campus, in the laying out and construction of walks thereon, where needed, furnishing men and teams, and considerable personal supervision. Some assistance was requested by the World's Fair Commission of Arkansas in the way of landscape work around the Arkansas State building. The assistance was gladly given and a considerable number of ornamental plants were furnished by the department.

Respectfully,

ERNEST WALKER,  
Professor of Horticulture.

## VETERINARY DEPARTMENT.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I submit herewith a brief report of the work of this department in the control of contagious diseases of live stock.

### NATURE OF THE WORK.

The expenditure of the State veterinary fund has been confined exclusively to control work in which investigation takes no principal part, this latter being provided for by the Experiment Station or Hatch Fund.

This "control work" has included during the year personal visits to outbreaks of disease, identification (by symptoms, by biological tests, by dissection of microscopical examinations of specimens sent to the laboratory), advice and aid in disinfection and isolation, and in certain instances preventive vaccination.

Two trips have been made for the purpose of attending farmers' meetings called to discuss means of preventing or limiting the spread of stock diseases.

Representing the State and Agricultural College I also attended the annual meeting of the Interstate Association of Live Stock Sanitary Board at St. Louis on August 22d.

### CONTAGIOUS DISEASES.

Those outbreaks of diseases, for which our services have been demanded since July 1st, 1903, up to the present, include glanders in horses and mules, black-leg of cattle, Texas or "tick fever," and swine plague and hog cholera.

### GLANDERS.

In Cross county on one plantation out of twenty-six head eleven were found diseased. The infection in

this case was believed to have been brought with stock shipped from Memphis.

### BLACKLEG.

On account of this disease trips were made to Sharp, Van Buren, Conway and Crawford counties. At all of these places the losses were extensive. As a demonstration, and in order to introduce vaccination against this disease, we made free vaccination of cattle—thirty-one head in Van Buren county and twenty-five in Crawford county.

### TEXAS FEVER.

This included large losses in Sharp county, along the quarantine line, and a small outbreak among registered cattle at Fort Smith.

### HOG CHOLERA.

This disease is not prevalent this year, only one call being received—from Boone county.

### NEEDS OF THIS DEPARTMENT.

The demands for aid in controlling live stock diseases in the State have increased during the present year, and are likely to further increase in the future. In order to make our assistance in controlling outbreaks of disease more effective, I would make the following suggestions:

1. That the endorsement and influence of the President and Board of Trustees be given to a bill which will be presented to the legislature for the purpose of enforcing quarantine or destruction of glandered horses and mules.

2. That an additional appropriation of \$600, making \$1600 in all, be asked for in order that part of the salary of the assistant, who largely attends to this State

veterinary work, be paid out of this fund, and a small sum be available for covering the expenses of preparation and free distribution of vaccine for blackleg of cattle.

Respectfully submitted,

R. R. DINWIDDIE.

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## DEPARTMENT OF PHYSICAL CULTURE.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: I respectfully request an appropriation for the following needs in the Physical Culture and Expression Department:

The Robert Reach triplicate chest machine...	\$ 50.00
Vaulting buck.....	60.00
Low parallel bars (two).....	24.00
Abdominal mat.....	15.00
Abdominal table.....	40.00
Storming board.....	35.00
Striking bag discs.....	45.00
Ordinary bom.....	40.00
Two dozen pairs Indian clubs at \$2.50.....	60.00
Two rowing machines.....	70.00
Tenpin balls .....	40.00
New tenpin platform.....	30.00
Tennis set .....	50.00
One dozen fencing foils at \$2.50.....	30.00
Bath tubs and shower baths.....	300.00
Spring board.....	30.00
Benches for gymnasium.....	30.00
Books for Department of Expression.....	100.00
Music for gymnasium drills (Miss Hooper) ..	80.00
Work in gymnasium.....	50.00
Repairing .....	50.00

Lighting the Department of Expression.....	\$ 100.00
Freight and express charges.....	100.00
Postage .....	10.00
Total .....	\$1439.00

Respectfully,

MRS. MARTHA H. WHITE.

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## DEPARTMENT OF GEOLOGY AND MINING.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: The following amounts are respectfully requested of the next General Assembly of Arkansas for the Department of Geology and Mining:

For maintenance and equipment of the department.....	\$ 700.00
For the salary of an assistant Professor of Geology and Mining for two years, at \$2000 a year.....	4000.00
Total .....	\$4700.00

It is the desire that the assistant Professor of Geology and Mining devote most of his time to the teaching of Mining Engineering. The amount requested for the salary of such a person is the minimum for which a competent man can be secured. Mining engineers of ability are highly compensated for their services in practical work at the mines, and cannot be induced to enter the class room at small salaries. Incompetent ones are not wanted as teachers. A man who cannot operate a mine is not the one to teach students how to do so.

There is urgent need for a new building in which to accommodate the Department of Geology and Mining,



and the Museum at the University of Arkansas. For this purpose, \$20,000 is respectfully requested of the next General Assembly. This request is made for the following reasons:

1st. The above mentioned department and museum are at present situated on the fourth floor of the main building, making them difficult of access.

2d. The space at present allotted the museum is wholly inadequate to its needs. A large amount of valuable material has been collected for which room has not yet been provided.

3d. All the collection in the museum is in constant danger of destruction by fire. Material of this kind should be in a building that is practically fireproof. A building can be replaced, but museum material cannot.

4th. The present laboratory of the Department of Geology and Mining is a small, poorly lighted room. Every year students are turned away from the course in mineralogy because there is not room to accommodate them in the laboratory.

5th. The department is in need of a room for general experimental work, and for drawing. At present there is no provision for either.

Respectfully,

A. H. PURDUE,  
Professor of Geology and Mining.

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### THE MUSEUM.

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*Dr. Henry S. Hartzog, President of the University of Arkansas.*

DEAR SIR: For the equipment of the museum \$1000 is respectfully requested of the next General Assembly. This amount is needed mainly for the construction of cases needed for the accommodation of the

large amount of excellent material secured at the Louisiana Purchase Exposition.

Respectfully,

A. H. PURDUE,  
Curator of Museum.

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## WATER MAINS ON THE CAMPUS.

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The engineer of the Water Company reports that it will cost \$3351 to put the mains and hydrants on the campus in proper shape. I herewith attach his estimate.

### ESTIMATE OF THE COST OF THE PROPOSED NEW WATER MAINS IN THE UNIVERSITY OF ARKANSAS.

2200 feet 6 inch pipe in place, at 90 cents.....	\$1980.00
830 feet 4 inch pipe, taking up and relaying..	373.50
570 feet 4 inch pipe, taking up and relaying, at 30 cents.....	171.00
Five new hydrants in place, at \$60.....	300.00
Four old hydrants, taking up and relaying, at \$25 .....	100.00
Three new 6 inch valves in place, at \$25.....	75.00
Total .....	<u>\$2999.50</u>

### ESTIMATE OF COST OF PLUMBING CONNEC- TIONS WITH BUILDINGS AND NEW MAINS.

940 feet 2½ inch galvanized iron pipe in place..	\$ 244.00
940 feet ditching, at 4½ cents.....	39.95
Nine 2½ inch gate valves, at \$7.....	63.00
Two ½ inch fittings.....	4.70
Total .....	<u>\$ 352.05</u>

UNIVERSITY OF ILLINOIS  
JAN 14 1931

Water Company estimate.....	\$2999.50
Plumber's estimate.....	352.05
Total .....	<u>\$3351.55</u>

F. H. EASLY,  
Engineer Fayetteville Water Company.

## REPORT OF THE ARKANSAS AGRICULTURAL EXPERIMENT STATION.

*To His Excellency Jefferson Davis, Governor of Arkansas.*

SIR: Herewith is submitted an estimate of funds needed for the instruction, improvement, maintenance and development of the Agricultural Experiment Station for the next biennial period:

Salary Agriculturist.....	\$ 2,000.00
Salary Agriculturist's assistant.....	1,000.00
Salary Horticulturist.....	2,000.00
Salary Horticulturist's assistant.....	1,000.00
Salary Entomologist.....	2,000.00
Salary Veterinarian.....	3,000.00
Salary dairying and live stock husbandry...	1,500.00
Salary farm foreman.....	1,000.00
Dairy building and equipment.....	10,000.00
Maintenance Agricultural Department.....	5,000.00
Maintenance Horticultural Department.....	5,000.00
Student labor.....	2,000.00
Agricultural and horticultural buildings and equipment.....	20,000.00

Very respectfully,

W. G. VINCENHELLER,  
Director Arkansas Agricultural Experiment Station.













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UNIVERSITY OF ARKANSAS

BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

AND

OFFICERS

MADE IN COMPLIANCE WITH THE LAW

FOR THE

YEARS 1904-05 AND 1905-06

FAYETTEVILLE, ARK.

THE LIBRARY OF THE  
JAN 14 1931  
UNIVERSITY OF ILLINOIS.

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LITTLE ROCK  
TUNNAH & PITTARD, PRINTERS  
1906





UNIVERSITY OF ARKANSAS

BIENNIAL REPORT

OF THE

BOARD OF TRUSTEES

AND

ERRATA.

On page 15, Duggins Bros. claim should  
read \$1,943.00 instead of \$1,465.00.

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# REPORT OF BOARD OF TRUSTEES.

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*To His Excellency Jefferson Davis, Governor of Arkansas.*

SIR: Complying with the law, the Board of Trustees respectfully submits to you the following report of the Arkansas State University for the years 1904-05 and 1905-06.

The most gratifying progress in every way has marked the history of the University for the past two years. There has been absolute harmony in the faculty, the student body has done excellent work, the discipline has been exceptionally good, and altogether, it seems to us that the record of the past two years, in every sense, has never been equalled for excellence in the lifetime of this great institution.

## LARGE INCREASE IN ATTENDANCE.

Notably significant has been the increase of student attendance during the two years last past. In 1903-04 the catalogue shows an attendance at Fayetteville of 806; in 1904-05. an attendance of 810, an increase of 4. The first year covered by this report shows the remarkable increase of 265 over the year preceding, the total attendance being 1075, the largest increase and the largest attendance ever before recorded. The present year will show an enrollment of 1200 at Fayetteville, and counting the Law and Medical departments at Little Rock and the colored Normal at Pine Bluff, the aggregate number of students now in the University of Arkansas approximates 1800, giving to our University the dignity and importance of being among the large institutions of the country. With such a record as this, the University has a right, we think, to expect from the Legislature of 1907 liberal appropriations for its maintenance and for necessary buildings and improvements.

## NEW BUILDINGS.

Many new buildings are imperatively necessary, made so by the increase of students and by the expansion of the different departments. This institution, it should be remem-



bered, was established thirty-six years ago when the State was young, sparsely settled and poor. The State is now older, well populated and no longer poor. The library has expanded from a handful of books to 13,000 bound volumes and 8000 pamphlets. The museum has grown in the same proportion. The attendance has increased from 100 students to 1200. The present chapel and assembly hall will seat only 600 persons. We should by all means have an auditorium with a seating capacity of at least 4,000, to properly entertain the people who would like to attend the public exercises.

## DEPARTMENT OF MATHEMATICS.

The Department of Mathematics, certainly one of the most important in the University, has never had the support it should have. An additional instructor and a building for an astronomical observatory to cost \$3,000 should be provided for this department.

## PHYSICS.

A building to cost \$50,000 for physics is sorely needed and cannot longer be dispensed with.

## GEOLOGY, MINING AND MUSEUM.

A building for the Department of Geology, Mining and Museum is imperatively necessary. This last mentioned building and equipment will cost \$75,000. It is necessary that this building should be fireproof.

## Y. M. C. A. AND Y. W. C. A.

No college activity has been productive of more good to the University students than the Young Men's Christian Association. It has a membership of near 300, and is the largest college Y. M. C. A. in the State. For two years it has maintained a paid secretary, who has been active in assisting the University authorities and students in many ways. The last Legislature appropriated \$1,000 for the benefit of this organization, and with this money rooms were fitted up and furniture was purchased for the association. It has been necessary

to house this association in the basement of the University building. These quarters are not at all what they should be.

The young women of the institution are maintaining an association among themselves and are doing a great work for the students and for the good of the institution. They now have a poorly furnished room at the young ladies' dormitory. Committees from these two associations have taken up the task, without compensation, of securing work for students of both sexes who are in need of funds to assist in defraying their expenses through school. They also meet students upon their arrival and assist them in securing proper boarding places. Altogether, these two associations are doing a great work for the University, and we are of the opinion that they should be encouraged to the extent of providing for them a separate building to be known as the Y. M. C. A. and Y. W. C. A. building and gymnasium, to cost not less than \$50,000, building and equipment. The boys now have no gymnasium. The young women have a small one, inadequately equipped, in the fourth story of the main building. This new building could be used by both associations, each having its own rooms, of course, both for gymnasium work and for the other work of the association.

### LIBRARY BUILDING.

The need of a new library building is conceded by every one. The library at present is in the room over the chapel and with a large number of books, pamphlets, bookcases and other furniture, together with a large number of students who are constantly there, it has become a menace to the lives of students. Our engineers have repeatedly warned us that the building is made unsafe by reason of the great weight resting on the not over strong pillars which support the floor of this room. It is customary everywhere, to have libraries on the first floors of buildings because of the great weight resting on the floors. There is another argument in favor of the removal of the books and furniture from this room, and that is that this space is badly needed for a lecture room or for recitation rooms.

We recommend an appropriation of \$75,000 for a library building.

## TEXTILE DEPARTMENT BUILDING.

Many of the state universities of the South have textile departments. This is especially important in the cotton producing states. It is the policy of those states which produce cotton to invite the building of cotton mills for the purpose of consuming the raw material. This should be the policy of our own State, which ranks among the leading states as a producer of cotton. This textile school should be established and maintained in connection with the University where experts can be prepared for establishing and carrying on the interests above mentioned.

We recommend an appropriation of \$25,000 for a textile department building, and \$10,000 for the maintenance of this department for two years.

## NEW SHOP BUILDING.

The Department of Mechanic Arts is in need of a new building to cost \$20,000, and we recommend an appropriation of this amount for this purpose.

## INADEQUATE TEACHING FORCE.

The great increase in students brings with it the necessity for an enlarged teaching force, therefore we recommend a larger appropriation for teachers' salaries. The University has about the same teaching force that it had when the enrollment was just half what it now is. It needs no argument to demonstrate the necessity of providing an adequate corps of teachers. Without this, good work in the classroom is impossible, and good work there is of paramount importance. Additional instructors have been asked for by heads of departments and we recommend that each request be granted. Or in other words, that a sufficient appropriation be made to enable the Board of Trustees to employ the necessary additional help.

## STUDENT LABOR FUND.

The student labor fund of \$5000, appropriated two years ago, was exhausted before the end of the scholastic year of 1904-05. This appropriation is for the poor students of the

State who could not attend college without the help of this fund, and should be increased to \$15,000 for the next two years. Every student in Arkansas who is willing to work his way through the University, should be given an opportunity to do so. This fund is available for both young men and young women.

### PREPARATORY DEPARTMENT.

The Legislature will no doubt be asked to cut off one of the classes of the Preparatory Department. Indeed, an effort may be made to induce that body to abolish the entire department. This fight, if it is made, will be inspired largely by those who favor preparatory departments in institutions which maintain and always will maintain the very thing which they desire to see abolished at the University. A large per cent of the strong graduates of the institution began in the Preparatory Department, and it should not be abolished until there is a high school in each of the seventy-five counties of the State. It is much cheaper to maintain one high school directly connected with the University than it is to maintain seventy-five high schools in as many counties. A large majority of the leading universities have preparatory departments. According to the report of the United States Commissioner of Education for the year 1900, out of 480 colleges reported, 410 had preparatory departments. The Legislature should not be led into doing grave and irreparable injustice to a great many aspiring young men and young women by denying them the right to obtain free instruction in the preparatory department at the University, for no other purpose than to compel them to attend some other high school where they must pay tuition. The move to abolish this department comes largely from those who expect to profit thereby at the expense of young men and women of the State who can ill afford to pay the extra expenses involved in their attending colleges, academies and high schools where tuition is charged. This department should be retained as it is retained in many of the universities of the country. The smaller counties have no high schools, and the only opportunity many of the young people of the State have for obtaining high school training lies in the student labor fund provided for the University, and in free tuition. The public schools cannot do the work done by the

two preparatory classes, and before students can enter freshman class, this preparatory work must be done by them; so that to abolish this department means to bar a large class of young people from the privilege of university training. In other words, if the preparatory department is abolished it will please a few interested parties greatly, but during the years to follow it will be a cruel blow to many a penniless young man and woman whose only chance to acquire an education would be cut off forever by reason of the failure of the State to maintain longer the Preparatory Department at the State University.

We think the Legislature will hesitate before it votes to take away from the deserving poor of the State their only present opportunity to secure high school training. When high schools are established in every county in the State, there will then be some excuse to abolish one or even both of the preparatory classes, but until high schools are established, we submit that it would be little short of a crime to deny the people who most need it, the right to obtain high school training at the least possible cost.

### STATE NORMAL.

There is a demand for a State Normal. There is now maintained a very efficient Normal Department at the University. At its head is Dr. W. S. Johnson, a graduate of Ouachita College, and later a Ph. D. graduate from Yale. If the Legislature will enlarge this department and give it an appropriation, an excellent State Normal can be maintained in connection with the University at a very small cost, compared with the great expense involved in establishing one elsewhere in the State.

### FRATERNITIES.

We hope the fraternity question will not prevent the Legislature from doing justice to the University in the matter of appropriations. The faculty is dealing with this question in a wise and conservative spirit. There has not been much agitation of the issue recently, and we think the University authorities will regulate these student quarrels, if allowed to do so, with justice to all, if not to the entire satisfaction of all.



## THE BUILDING DEFICIT.

The last Legislature appropriated \$82,000 for the erection of two new dormitories, a chemistry building, an agricultural building, an infirmary and a dairy building. The Board of Trustees advertised for plans, and a number of plans were submitted. The board adopted the plans of Heckenlively & Reed, architects of Springfield, Missouri, for the infirmary, agricultural and dairy buildings, and the plans of Thompson & Gates, of Little Rock and Fayetteville, for the other three structures. The building committee, representing the board, then advertised for bids, and on the first day of September, 1905, the bids were opened. There were but two bids submitted, although many contractors figured with the plans and all agreed that the buildings could not be erected according to the plans adopted with the money appropriated for the purpose. Those submitting plans were requested to furnish plans for buildings that could be erected with the money appropriated. They failed to do this, however, as is often the case. The two bids submitted were by Clarke and Thallman, of Little Rock, and by Donaghey & McIlroy, of Conway and Fayetteville. The Clarke & Thallman bid read as follows: "To erect the buildings according to plans and specifications for \$109,000." The other bid, as stated, was from Donaghey & McIlroy, offering to construct the buildings for \$99,450. This amount was in excess of the appropriation, but it was \$10,000 less than the other proposition, made by the Little Rock firm. The University was granted a low freight rate on materials used in construction and was given credit for this rebate by the contractors. After a lengthy discussion and after being advised by Architect Thompson that the plans could hardly be altered without lessening their value materially, and that the bid of Donaghey & McIlroy was a very reasonable one, and that in his opinion these buildings could not be erected for less money, we let the contract to Donaghey & McIlroy, they agreeing to wait until the Legislature should appropriate the balance due them in excess of the appropriation. The buildings were completed strictly according to contract, with the exception of necessary changes agreed upon by both parties, and the buildings were accepted by the architects and have been in use since last September. See elsewhere the certificate of the architects accepting and approving these buildings.

The contractors lived up to their agreement, and built for the State these handsome structures that cannot be duplicated for the same money, and they should have their pay for the same. It is not uncommon to exceed appropriations in erecting public buildings. It has frequently been done before at the University. This is not a new precedent and the Legislature has never yet refused to promptly and cheerfully appropriate the necessary funds to discharge these obligations.

These new buildings and the necessity of furnishing them completely and the great increase of students, amounting at this time in the aggregate to about 400 over the enrollment of two years ago, have made it necessary for the building committee to pledge various sums for equipment and improvement and necessary things not provided for in the appropriation bill, a detailed statement of which sums will be given elsewhere in this report, all of which should be promptly met by appropriations.

While on the subject of deficiency, we beg to report that there has been a deficiency for many years in the salary item, caused by the various legislatures estimating the end of the university year as occurring on April 1st instead of July 1st. The last Legislature cut the salary item in the appropriation bill \$15,000, and as result of that and for the further reason that the board has been forced to elect several teachers, caused by the increased attendance already referred to and by having raised a number of teachers' salaries, a deficiency exists in the salary item and the officers and members of the teaching force will be compelled to hold their warrants for several months. We have asked only for sufficient money to conduct the institution in a creditable manner for the next two years, and the estimates made by us should not be cut. We beg the Legislature to give us this time all we ask, and thus inspire with encouragement this great institution which has done so well with the meager assistance it has had.

Other Commonwealths are more liberal with their universities. States that are not so large nor so wealthy as ours appropriate from two to four times as much as we do for university training. We call your attention to the following table showing recent appropriations to state universities:

University of Arkansas.....	\$ 235,000
University of California.....	900,000
University of Cincinnati.....	300,000

University of Colorado.....	\$ 260,000
University of Georgia.....	442,000
University of Illinois.....	446,000
University of Kansas.....	284,000
University of Missouri.....	844,000
University of Texas.....	540,000
University of Virginia.....	300,000
University of Wisconsin.....	1,140,000
Washington University, St. Louis.....	489,000
University of Iowa.....	564,000
University of Indiana.....	280,000

Kansas supports two other State colleges, Virginia two others, and Texas supports an A. and M. College in addition to the institution above named.

There is no reason why Arkansas should be made to suffer at home or in the eyes of strangers by a comparison of this character. We earnestly hope that the present Legislature, composed as it is of strong and liberal men, will give the University what it has never had before—a fair and liberal appropriation. There is absolutely nothing more needed in the way of legislation. The faculty is a strong one and its members are faithful and are doing excellent work, and no new legislation concerning the institution is needed. All we desire is an adequate appropriation of funds, then the growth and further expansion of the State's only university will satisfy, in the fullest measure, the requirements and wishes of the patriotic citizenship of the State.

## APPROPRIATIONS.

This budget is larger than usual, but has been made necessary by the increased attendance and by the rapid expansion of the various departments. Besides, if we are to keep pace with other states in the matter of higher education, we must appropriate as much as they do for university training.

### NEW BUILDINGS.

Building for Geology, Museum and Mining and equipment .....	\$75,000.00
Building for Physics and equipment .....	50,000.00
Maintenance of same for two years .....	2,500.00

Y. M. C. A., Y. W. C. A. building and Gymnasium combined and equipment.....	\$50,000.00
Library building .....	75,000.00
Auditorium .....	40,000.00
Textile Department building.....	25,000.00
Maintenance of Textile Department .....	10,000.00
Additional shop building, Mechanic Arts Department.....	20,000.00
Building for Astronomical Observatory.....	3,000.00
Steam laundry building and equipment.....	12,000.00
Salary for manager of same for two years.....	2,400.00
Power plant for light and power on campus.....	25,000.00
Dormitory and mess hall for boys.....	45,000.00
Building for class and clinical work Veterinary Science Department.....	2,000.00
Equipment for same.....	1,000.00
Maintenance of same .....	1,000.00

MAINTENANCE FOR DEPARTMENTS FOR TWO YEARS, FOR  
RUNNING EXPENSES AND EQUIPMENT.

Agricultural Department, in Experiment Station and University .....	\$ 7,500.00
Electrical Engineering.....	5,905.00
Dairy Husbandry .....	4,300.00
For three firemen and one helper.....	4,300.00
Night watchman.....	1,200.00
Mechanical Engineering.....	6,330.00
Fuel .....	12,000.00
Heating plant expenses.....	13,235.00
Mechanic Arts.....	5,905.00
Department of Entomology .....	3,000.00
Biology .....	961.11
Department of Psychology .....	1,300.00
Ancient Languages.....	500.00
Horticultural Department .....	6,125.00
History and Political Science.....	2,000.00
Civil Engineering.....	4,550.00
Chemistry .....	5,750.00
Music .....	3,000.00
Preparatory Department.....	1,200.00
For enlarged Normal Department.....	15,000.00
Philosophy and Pedagogy.....	1,300.00

Military Science and Tactics .....	\$ 1,450.00
Economics and Sociology.....	3,300.00
Mathematics .....	400.00
English .....	2,500.00
Germanic Languages.....	1,500.00
Department of Spanish, French and Italian.....	1,500.00
Y. M. C. A. Department.....	1,200.00
Y. W. C. A. Department.....	600.00
For books and maintenance of library.....	10,000.00
Binding magazines.....	1,000.00
Geology .....	1,000.00
Mining and Engineering.....	900.00
Museum .....	500.00
Elocution and Physical Culture.....	1,289.80
Art Department.....	3,400.00
Road engineering for good roads.....	4,000.00
For instruction, maintenance and improvements of the Arkansas Agricultural Station.....	40,000.00

#### MISCELLANEOUS ITEMS.

Salaries for two years, ending July 1st, 1909.....	\$85,000.00
Insurance .....	4,000.00
For re-roofing main building .....	2,500.00
Traveling Veterinarian.....	1,200.00
Tools and horse lawn mower .....	150.00
Additional fireman.....	800.00
For re-flooring halls in old dormitory.....	200.00
For re-roofing old dormitory .....	475.00
Student labor.....	15,000.00
Improvement of campus.....	5,000.00
Repair fund.....	10,000.00
Salary of matron for boys' dormitory.....	1,200.00
Housekeeper for boys' dormitory.....	600.00
Janitor for boys' dormitory .....	600.00
Furniture for matron's office, boys' dormitory.....	125.00
For furnishing matron's room, boys' dormitory ..	100.00
Furniture for parlor, boys' dormitory .....	150.00
Salary of University carpenter for two years.....	1,600.00
Shades and linoleum for bath room, boys' dormitory	50.00
Infirmary fund .....	1,750.00
Janitor service.....	3,500.00
For plumbing.....	1,500.00



Stationery and printing .....	\$2,500.00
For postage.....	1,500.00
Trustees meeting .....	1,200.00
For water.....	3,500.00
Secretary to President .....	960.00
Annual, the student publication.....	300.00
Repairs of bath house.....	200.00
Salary of matron for girls' dormitory.....	1,200.00
Housekeeper for girls' dormitory.....	600.00
Janitor for girls' dormitory.....	600.00
For sanitary improvements, including connection with sewer system of Fayetteville.....	5,000.00
For University band and orchestra.....	200.00
For contingent fund.....	1,000.00
For publishing University catalogue.....	1,600.00
For new furniture for main building.....	4,000.00
For completing stone wall around campus.....	3,000.00
For cement walks on campus .....	1,200.00
For grading around buildings .....	500.00
For cement walk on south side of campus .....	500.00
For vitrified brick pavement to middle of street on south side of campus on Dickson street, 250 feet x 40, called for by improvement district.....	1,200.00
Deficit for Military Department.....	300.00

During the last year of the administration preceding the present one, the boys' dormitory overdrew at the Washington County Banking & Trust Company in the sum of \$809.63, and a note for that amount was executed on June 28th, 1905, to said banking company by F. I. Gibson, who was bookkeeper and treasurer of the dormitory for that year. The dormitory is conducted as a club of young men, and this club begins and ends with each school year, a different set of boys being there each year. Gibson is unable and unwilling to pay the note and the boys are scattered to the four corners of the State and will not pay any part of it. Part of this money was invested in furnishings of a permanent character. This bank extended credit to the dormitory for that year, supposing Gibson would collect and pay, which he failed to do. The present administration is in no way responsible for this debt, and has been conducting the dormitories on strictly business principles, seeing that such debts are paid as they are contracted. Still, as this money was advanced by this bank in good faith, and

was used for the benefit of several hundred Arkansas young men who were then students at the University, we feel that the bank should at least have the principal of its debt, and so recommend.

### DEFICIENCY BILL.

Balance due Donaghey & McIlroy on the six buildings erected by them as contractors and for additional work and materials furnished as set out in itemized statement elsewhere printed...	\$21,688.87
Balance due Nesbit-McMillan Furniture Co., for materials furnished girls' dormitory.....	293.43
Balance due Architect Gates .....	600.00
Balance due Architect Thompson.....	873.97
Due McIlroy Dry Goods Co., for table linen for girls' dormitory.....	138.43
Deficiency in salaries for last two years to May 1st, 1907 .....	26,300.00
Hollenberg Music Company, for four pianos, sold University for girls' dormitory .....	1,200.00
Balance due Lake & Frost, for bill sold boys' dormitory .....	280.00
Balance due Harrison & Son, for bill sold girls' dormitory .....	272.65
Due Logan & Dinwiddie, for fixing up old desks temporarily in room at top of stair landing ...	3.96
Chalk rail and border around blackboard in recitation room; material and time.....	5.00
Furnishing materials and making desks and fittings in new chemistry building, as per contract .....	2,031.00
Due Duggins Bros., for furnishing and installing heating plant, chemistry building.....	1,465.00
Due Washington County Banking & Trust Co., note above referred to.....	809.63

We ask you to read and consider the reports of the heads of departments following this report and printed in connection herewith. We have not had space to discuss or indorse separately each recommendation, report or paper filed, but we do approve them separately and collectively. They all contain reasonable and necessary requests, and these requests should meet with prompt and cheerful approval at the hands of the Legislature.

Respectfully submitted,

H. STROUP,  
G. T. BRECKENRIDGE,  
W. H. LANGFORD,  
C. C. HAMBY,  
J. C. SOUTH,  
F. P. HALL.

# REPORT OF THE PRESIDENT.

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*To the Honorable Board of Trustees.*

GENTLEMEN: I submit my report for the college year beginning September 20th, 1905, and ending June 20th, 1906.

## ENROLLMENT.

There have been in attendance upon the regular and special courses of the University at Fayetteville during the past year 1075 matriculates, divided as follows:

Graduate students .....	13
Seniors .....	52
Juniors .....	62
Sophomores .....	85
Freshmen .....	165
Special students .....	62
Students in short courses in Engineering .....	54
Students in the Conservatory .....	26
<hr/>	
Total number collegiate and conservatory students .....	523
<hr/>	
Preparatory students in first year.....	305
Preparatory students in second year.....	243
<hr/>	
Total.....	548
Matriculates too late for classification in catalogue .....	4
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Total number of students at Fayetteville.....	1075
Students in Medical School (Little Rock).....	171
Students in Law School (Little Rock) .....	46
Students in Branch Normal College (Pine Bluff).....	240
<hr/>	
Total number of students in the University.....	1532

This shows a very gratifying increase in attendance. Last year the enrollment at Fayetteville was 810. The year before that it was 806, showing an increase for the year preceding this of four students. This year there was an increase of 265 students at this place alone. This estimate is to June 20th, 1906. The enrollment now is near 1200 and will reach that figure before the end of the year; total enrollment in all departments, including Branch Normal, 1800.

### TEACHING FORCE.

This unexpected increase noted above taxed the teaching force greatly, and it became necessary to have additional help. On the recommendation of Dr. Carr and a majority of your board, I appointed an assistant instructor in the department of English and Modern Languages, Prof. A. L. Harvey, at a salary of one thousand. In addition to his duties as assistant instructor, he has served as chaplain. Miss Pearl Martin, whom the board elected to teach in the preparatory department, was unable, by reason of protracted illness, to begin work at the first of the year, so I appointed Miss Edna Allen, a graduate of the University, to teach in her stead. Miss Allen did excellent service until three months ago, when she became sick and resigned, and Miss Rowena Galloway was appointed to take her place. During the summer Dr. Muckenfuss, Professor of Chemistry, and Mr. T. C. Treadway, adjunct Professor of Mechanical Engineering, resigned, and Dr. Carroll and E. B. Critzer were appointed to succeed them. It became necessary also to fill by appointment the adjunct professorship of Romance Languages, caused by the resignation of the gentleman selected by the Board at its last June meeting. Professor Marinoni was appointed. In addition, two members of the senior class, Mr. Oates and Miss Stockton, have been employed for a small monthly compensation to assist with the preparatory classes. This was thought necessary by the Principal of the Preparatory Department. It is a pleasure to report that all these appointees have given entire satisfaction.

While on this subject I beg to say that I find a hurtful unrest among the professors and instructors because of a general feeling among them that their tenure is insecure. In consequence of this they are constantly looking out for



employment elsewhere and often secure it, thereby forcing us to be constantly taking up new and untried men. I am convinced that a longer and more certain tenure should be secured for all officers and employees. A strong man or woman will build up a following among students, and the longer this teacher remains, the larger this following will be. The students, when they go out in the State, will take more interest in the University if their favorites continue as members of the faculty, than they will if strangers take their places.

### HEALTH OF STUDENTS.

The health of the students has been good during the year; physicians say better than any previous year. There has been but one death, that of Mr. Robert Wadley, of Hot Springs. I took the remains home and attended the funeral. This attention was greatly appreciated by the friends and relatives of the deceased, and unless otherwise ordered, I shall make it a custom to go or send some member of the faculty with the body of each deceased student.

### DISCIPLINE.

The discipline for the year has been exceptionally good. I find that the rules adopted at the last Board meeting are for the most part wholesome. However, I recommend some changes, as embodied in a set of resolutions submitted on a separate sheet.

### THE FIRE.

In the early fall the main building caught fire, and but for the dormitory students, would have burned to the ground. The water supply seemed adequate for the occasion, and the fire did but little damage, but considerable loss was caused by the water. The insurance companies promptly paid the loss.

### FUNDS.

All funds have been materially reduced this year on account of the necessary repairs and because of the employment of additional teachers, the raising of salaries, etc., and es-

pecially has the student labor fund suffered on account of the large attendance of poor students. It was necessary to find work for them, and it was done.

### CONCLUSION.

We have had a splendid year. The duties have been various and often difficult of solution, but I have acted in each case promptly and with the best judgment I could command. I submit herewith the reports of the heads of different departments.

Respectfully submitted,

JOHN N. TILLMAN,  
President.

# REPORTS OF DEPARTMENTS.

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## HISTORY AND POLITICAL SCIENCE.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I herewith submit report of my department.

### GROWTH OF DEPARTMENT.

The facts below show a marked growth in the department. The year 1902 is taken for comparison because that was the year when I came here.

COURSES	NO. OF STUDENTS	NO. OF STUDENTS
	1902-3	1906-7
Mediaeval and Modern History .....	11	130
Constitutional History of England .....	9	27
State and Municipal Government .....	9	13
National Government .....	6	10
French Revolution and Nineteenth Century .....	5	20

In 1902-3 Greek and Roman History was freshman; and while a required subject then, there were only 41 students in the class. Now Mediaeval and Modern Europe is freshman, and while not required, there are now (October 26, 1906) 130 in the class.

In 1902 I found 55 books known to belong to the department; by purchase I have added 539 volumes. Besides the above I have secured for the special use of the department the following books:

By special Act of the Legislature of 1905, 2,000 volumes of State and Federal publications.

From T. M. Gunter's library, 1905, 100 volumes.

From Hugh Reagan, 100 volumes.

Total, 2,200 volumes of government documents.

These will be invaluable books when the department is given sufficient teaching force to offer advanced courses in American History and Politics. It is our purpose to press the matter of collecting books until the department is equipped for the highest grade of work.

### NEEDS OF THE DEPARTMENT.

The most pressing needs are an additional teacher, a departmental library room and books. Each need is imperative, supplying which cannot be postponed without serious injury, not only to the department, but moreover to the University in general.

(1) *Additional Teacher*.—Is needed because: (1) history and political science are two large fields and at present one man is expected to cover the whole domain of both subjects; (2) with but one teacher nothing but elementary work can be offered, for the simple reason that the time of the teacher is taken up with general courses absolutely required. The freshman class alone is quite enough for one man. Not over 25 students should be in a section, while I now have as many as fifty; (3) history is vitally related to other departments and they are calling for courses which we cannot offer. Courses in Greek, Roman, English, German, French, Spanish and Italian History should be given every year. For lack of teaching force we offer none of these courses except English History.

(2) *Departmental Library*.—A large library room with apartments for different classes is needed. Each apartment should be supplied with desks provided with a drawer for each student and a working set of books for every three or four students. The library should be the laboratory of the department, regular library hours should be required and the work should be as closely supervised as such work is in any scientific laboratory.

(3) *Books*.—Books are an absolute necessity for first-class work in history and political science. The department now has 200 students and about 600 available books, three volumes to each student. Of standard works there should be many duplicate copies. If to refer a small class to one book secures poor results, what is to be expected when a class of 130 is sent to one work? At present the department is not

well equipped for a single line of historical work. While much more is needed, there is an imperative demand for the amounts given below for the purchase of books:

Mediaeval and Modern History.....	\$500.00
American History.....	150.00
English History.....	150.00
Greek History.....	100.00
Roman History.....	100.00
German History.....	75.00
French History.....	75.00
National Government.....	150.00
State Government.....	100.00
International Law.....	100.00
Municipal Government.....	50.00
French Revolution and Nineteenth Century.....	150.00
Stationery, bookcases, desks and other things necessary for equipping a library and advancing the interest of the department.....	300.00

#### SUMMARY.

Salary of an associate professor for two years.....	\$3,000.00
Books, furniture and other things required for the strengthening of the department.....	2,000.00

Very truly,

J. H. REYNOLDS.

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#### PHILOSOPHY AND PEDAGOGY.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to report for the Department of Philosophy and Pedagogy as follows: The department has rapidly increased in numbers since my connection with the University, and especially this year, as may be seen by the following table:



NO. OF COURSE	TERM	HOURS PER WEEK	NUMBER IN CLASS
1 .....	Fall .....	3	67
4 .....	Spring .....	3	30
9 .....	Spring .....	3	23
2-a .....	Both terms ...	1	66
2-b .....	Both terms ...	1	33
3 .....	Both terms ...	2	33
5-a and b .....	Both terms ...	3	17
6 .....	Both terms ...	2	15
8 .....	Both terms ...	1	8
10 .....	Both terms ...	2	6
11 .....	Both terms ...	1	8
Total .....			306

Three hundred and six is the total enrollment. This includes in some cases students who were enrolled in more than one class; still, it is by far the largest enrollment that we have ever had in this department. The work of the students has been of a uniformly high grade, there being but very few failures this year.

In regard to the University Normal I would respectfully call your attention to the fact that at the last meeting of the Legislature a bill was passed making the University Normal diploma a certificate to teach in any county of this State for a period of six years, and at the expiration of that time it may be converted into a life certificate, provided the work of the holder thereof meets with the approval of the State Superintendent of Public Instruction. Hence this makes it very necessary that we guard carefully the equipment and training of the graduates of the Normal, lest they bring reproach on the University. In order that you may see the requirements for this diploma, I attach hereto a circular of the University Normal which gives the conditions and courses of study. The course of study and training work I think will compare favorably with the best normals throughout the United States.

### RECOMMENDATION I.

Recognizing the utter impossibility of determining the fitness of the graduates of the Normal to do creditable work in the public schools, last fall, with the consent of the President, I established what is known as the "Model School." I employed Miss Augusta Nelkin of the Louisiana State Normal to take charge of this school and to act as critic teacher

for the Normal seniors. I paid her salary, \$1000, out of my department funds. This fund is about exhausted, and in order to maintain this department I ask that the Board elect her as my assistant, to be known as "Training Teacher." I may say that Miss Nelkin was training teacher for the Louisiana Normal while I was connected with that school and I knew what she could do before I gave her the place. I do not feel any hesitancy in signing the diplomas of those who pass under her.

This addition to this department is absolutely necessary, for, without this training work, I do not feel that we can afford to issue any more diplomas of graduation. There is too much at stake not to give them this training work. We will have seventeen graduated this year, and in all probability a larger class next year. With this prospect before us I cannot help urging upon you the better equipment of this department. Since my funds are exhausted I must now rely on the Board for its maintenance.

## RECOMMENDATION II.

As the Professor of Education in this University, I feel it my duty to call your attention to the course of study required for the B. A. and B. S. degrees (see catalogue, pp. 75 and 76.) As may be noted, some work is required in the freshman and sophomore years, the junior and senior years being entirely elective. I would respectfully call your attention to the fact that in this course no work is required in philosophy. With only one or two exceptions, every college and university throughout this country requires a minimum of three hours work in the Philosophical Department (generally Psychology, Logic and Ethics).

Formerly it was required here, but since the elective system has gone into effect only a small per cent. of those graduating in the B. A. and B. S. courses take any work in Philosophy. This, in my opinion, is not as it should be, for I believe that every man who holds a degree that is supposed to stand for general culture should have some training in reflective thinking. I would therefore recommend that all candidates for the B. A. and B. S. degrees be required to have a minimum of three hours credit in the Department of Philoso-

phy. By so doing I think that it will tend to counteract the materialistic tendency in the work of this institution.

Respectfully submitted,

W. S. JOHNSON,  
Professor of Philosophy and Pedagogy.

## ELECTRICAL ENGINEERING AND PHYSICS.

*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the annual report of the Department of Electrical Engineering and Physics for the year ending June 21st, 1906.

The courses of instruction have been given substantially as published in our 1904 and 1905 catalogue. The following schedule shows the subjects taught, the division of the work and the number of students enrolled in each class.

COURSE	PER WEEK HOURS	STUDENTS	INSTRUCTOR
E. E. 1, Freshman.....	5	33	L. S. Onley
E. E. 3-a, Freshman ...	4	51	L. S. Onley
E. E. 3, Junior .....	4	10	W. N. Gladson and L. S. Onley
E. E. 4, Senior .....	4	4	W. N. Gladson and L. S. Onley
E. E. 5, Junior .....	4	11	W. N. Gladson and L. S. Onley
E. E. 6, Senior .....	4	5	W. N. Gladson and L. S. Onley
E. E. 7, Junior .....	3	6	H. S. Schapper
E. E. 8, Senior .....	3	4	W. N. Gladson
E. E. 9, Senior .....	3	4	W. N. Gladson
E. E. 10, Senior .....	2	3	W. N. Gladson
E. E. 11, Senior .....	2	4	W. N. Gladson
E. E. 12, Sophomore ..	3	8	H. S. Schapper
Physics, Preparatory ..	2	23	L. S. Onley
Physics 1, Freshman ..	3	86	H. S. Schapper
Physics 1-a, Freshman.	1	25	H. S. Schapper
*Physics 1-b, Sophomore	.	..	
Physics 2, Sophomore..	3	6	H. S. Schapper
*Physics 2-a, Junior ...	.	..	
*Physics 3, Junior ....	.	..	
Physics 4, Elective ...	2	1	H. S. Schapper

Twenty courses. Fifty-two hours. Two hundred and eighty-four students. Three instructors.

\*Not given. No laboratory.

Courses 8, 9, and 10 are half year courses, while 3, 4, 5, 6 and Physics 1b and 2a are drawing and laboratory courses.

The amount and quality of work done by the students in this department has been a decided improvement over last year's work. As we have had no physical laboratory, we have been unable to give the practical work in Physics, and from the present outlook I doubt if we will be able to give this work next year.

## PHYSICS.

On January 11th, 1905, I addressed the following letter to Dr. Hartzog, then President of the University:

*President H. S. Hartzog, Fayetteville, Arkansas.*

DEAR SIR: At the July meeting of the Board of Trustees the Department of Chemistry and Physics and Electrical Engineering were re-arranged. They are now known as the Department of Chemistry and the Department of Electrical Engineering and Physics.

In making this change the trustees did not indicate whether or not the present physical laboratory, class rooms, etc., should be continued in use for this work. Under the assumption that the old quarters were to be used, I have taken up the work as outlined in our catalogue.

In your report to the Board of Trustees for the year 1902 and 1903, you refer to the "the old chemical building" as unsightly and unsafe and urge the erection of a new building for this department (Chemistry).

I beg leave to call your attention to the fact that should this old building (Science Hall) be condemned and a new one erected for the Department of Chemistry alone, we will have no laboratories for Physics.

Physics is the foundation of all applied science, and should have that recognition and support in the University which the true importance of the subject demands.

There is no available space in the Engineering Hall, in the space allotted to Electrical Engineering, for the accommodation of Physics.

In my last report I called attention to the same matter in the following paragraph: "If this old building, which contains the Physical laboratories, is pulled down and a new one erected for Chemistry alone, the important work of

Physics, the foundation of all science, will be without shelter. I most earnestly hope you will urge upon the attention of the Board of Trustees the necessity of providing suitable space for the teaching of Physics.”

The Physical laboratory has been taken down, and we have stored the apparatus in the library room and corridor of the Engineering Hall. The large assembly room has been used for physical lecture room and we are without a laboratory.

About \$1700 of the fund appropriated for Physics has been paid out for new apparatus, books, etc., and an instrument maker is re-building the old equipment. By employing a mechanician we were able to restore a large part of the old apparatus at a small expense, effecting a saving of several hundred dollars to the University. If we employed such a man permanently, he would build many of our instruments on which we could save at least the manufacturers' and jobbers' profits.

The urgent need of a Physical laboratory is apparent to even casual observers of University matters. A suitable building, finished and furnished (at the present prices of material and labor), will cost about \$50,000. I hope that a suitable appropriation will be asked for.

To maintain this branch of the work for two years will require a little more than the usual appropriation, for it will be necessary to move and re-assemble the apparatus. I respectfully request that you ask for an appropriation of \$2,500 for this work.

## ELECTRICAL ENGINEERING.

Of the last appropriation for this work we have expended \$4,000 on new machinery, laboratory instruments and furniture, books, etc. We have built and installed a switchboard in the laboratory, on which each machine, circuit and the storage battery has terminals. In the repair shop we have installed a multi-speed motor directly connected by belt to our lathe. The line shaft has been overhauled and re-arranged. The practical work in the laboratory has had a wider field for experiments than ever before.

To maintain the department for the next two years will require not less than \$8000, itemized as follows:



Standard measuring instruments .....	\$1,000.00
Accurate laboratory instruments .....	500.00
Transmission dynamometer and absorption dynamometer .....	500.00
Railway machinery and models .....	500.00
Repair shop tools and supplies .....	500.00
Salary for mechanician .....	2,000.00
Dynamo machinery and supplies .....	2,000.00
Drawing room furniture model and supplies .....	200.00
Books and periodicals .....	200.00
Freight, drayage and incidentals .....	600.00
Total .....	<u>\$8,000.00</u>

### POWER PLANT.

The new buildings which are now just being completed on the campus will increase our number of lamps wired to about 1000, while the dairy and other industrial departments will increase the demand for power.

Assuming that we will use 60 kilowatts, the expense to the University (should we buy this current at present prices) will be about \$5.00 per hour, or \$400.00 per month. This would be 10 per cent. on an investment of \$36,000.00.

It is impossible to furnish this power from our present experimental machinery, and I respectfully recommend that a power plant be built for the purpose of furnishing light and power to the University grounds. Such a plant will cost about \$25,000.00.

### SUMMARY OF NEEDS.

Electrical Engineering .....	\$ 8,000.00
Physics .....	2,500.00
Physical Laboratory .....	50,000.00
Power plant for light and power on campus .....	25,000.00

Respectfully submitted,

W. N. GLADSON,  
Professor of Electrical Engineering and Physics.

## DEPARTMENT OF BIOLOGY.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following report for the Department of Biology.

It affords me pleasure to report that in many respects the past year has been a successful one. Instruction was given in the following subjects:

General Biology, Botany, Zoology, Bacteriology, Physiology, Histrology and Embryology.

More students have been enrolled in the department this year than any previous year since my connection with this institution.

Several pieces of useful apparatus, a number of valuable books of reference, and many specimens of both plants and animals have been added to the department during the year.

On account of the increase in number of pupils in the department, and the additions of apparatus and specimens, the laboratory is becoming very much crowded. It affords desk room for thirty-six pupils and this year's enrollment was more than double the above number.

To teach the courses mentioned in this report would have required forty hours teaching per week for one instructor. allowing each class separate laboratory periods, which I could not do this year. Since laboratory work requires to a great extent that the instructor give each pupil individual attention, an average of more than fifteen in one period is more than one teacher ought to instruct.

During the past scholastic year I have had for three days of the week, five of the seven periods with a much larger number of pupils and have taught thirty-three hours per week.

It is evident that the department needs more room, and also an instructor to assist in the laboratory. I most earnestly ask that additional laboratory space be provided for the department and an instructor be secured to assist in the laboratory.

## APPROPRIATIONS ASKED FOR.

Salary of an assistant in laboratory, two years . . . .	\$1,500.00
Apparatus, chemicals and laboratory material for laboratory, two years . . . . .	961.11
Total . . . . .	\$2,461.11

Respectfully submitted,

F. W. PICKEL,

Professor of Biology.

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## REPORT OF LIBRARIAN.

*President J. N. Tillman, University of Arkansas.*

DEAR SIR: The following is a report of the work in the library for the year ending April 30, 1906:

The library was kept open six days in the week for the use of the collegiate students as a study hall, and the circulation department and reading room were for the use of all. One month of this time, from the middle of November on, the library was closed in order that repairs might be made in the room, and the books straightened after the damage and confusion of the fire. Very little hurt was done the books, and this was fortunate, since there was no insurance on them. The students used the chapel as a study hall during the time they could not have access to the library. As an experiment the library was opened three hours every night for a month, but the expense was found to be too great for the number of students that took advantage of this opportunity.

Out of the sum of \$1036.04 on hand at the beginning of the year, \$645.97 has been spent on books, magazines and the maintenance of the library. The accession book shows that 694 books have been added this year, and the most of them have been catalogued and placed on the shelves, making in all 10,261 bound volumes in the library.

The magazines and papers for next year have been ordered and paid for, and together with the ones that come gratis, we have on file something like one hundred.

Miss Brownfield was engaged by the library committee as an assistant, the increase of students making it absolutely necessary to have help in the library.

The library committee asks for the following appropriations for the library:

For a library building .....\$75,000.00

A building wholly devoted to the needs of a library is imperative, because the room now used for library purposes is entirely too small and is not capable of enlargement. Moreover, competent engineers have warned us of the danger of placing any more books in the room now used for a library. The library is the center of the intellectual life of a University. Besides, it is the laboratory for the departments of language study, history, economics, etc. To furnish equal facilities for work in these departments as those offered in the scientific and technical laboratories, the library must be thoroughly equipped. As it now stands, our library, of all the departments in the University, is the most poorly equipped to perform its duties.

For books and maintenance .....\$10,000.00

For binding magazines ..... 1,000.00

Respectfully submitted,

ADA PACE,  
Librarian.

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### CIVIL ENGINEERING.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following report of the Department of Civil Engineering for the year 1905-06.

The growth of the department has been continuing steadily, both in the number of students and the character of work. The present senior class in this course is the largest in the history of the institution, numbering twelve, ten of whom will receive their diplomas. Practically all of the class have accepted offers of positions at this time: J. R. Pruitt, with the C., M. & St. P. R. R., at Chicago; G. G. McCrory, with the Pittsburg Water Works and Guarantee Co., at Suffolk, Va.; C. T. Harding, Assistant City Engineer, Pine Bluff, Ark.; C. W. Brunskog, with the Vandalia Railroad, at Indianapolis, Ind.; F. B. Barrett, with U. S. Geological Survey in Missouri; G. C. Pruett, with Good Roads Bureau, Washington, D. C.; C. Schimmelpfennig, with Virginia Bridge and Iron Co., Roanoke, Va.

The fact that the graduates in this department can secure positions so readily is due largely to the former graduates, both on account of their good work and on account of the kindly interest which they take in placing each succeeding graduating class.

The work of this department is greatly hampered by the constant change of the assistant. The salary is so small that it does not offer sufficient inducement for a man to remain longer than one year. Mr. V. P. Knott, instructor for the past year, has handed in his resignation, for the reason that the position does not offer sufficient inducement for the future. I hope that this condition can be remedied.

Mr. F. M. Billings, of the class of 1903, has submitted his application for the position of instructor in Civil Engineering, and I recommend that he be elected.

A financial report and request for an appropriation will be submitted at a later date.

J. J. KNOCH.

## MUSIC DEPARTMENT.

*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit herewith report of the Department of Music, for the scholastic year of 1905-06.

The year's work has been very satisfactory, nearly all pupils in this department having made excellent progress.



I have been ably assisted in my piano work by Mrs. Mamie Carlisle, Miss Gertrude Crawford having charge of the vocal work.

The enrollment in the department has been as follows:

Piano students .....	66
Violin students .....	1
Vocal students .....	24
<hr/>	
Total .....	91

HAZEL A. YATES,  
Director of Music.

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## DEPARTMENT OF CHEMISTRY.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the following report to make concerning the work of the Department of Chemistry for the year 1905-06.

### ENROLLMENT.

Chemistry I .....	132
Chemistry II .....	9
Chemistry III .....	14
Chemistry IV .....	8
Chemistry V .....	4
Chemistry VI .....	1
Chemistry VIII .....	4
<hr/>	
Total .....	172

The work of the year has been carried on under great disadvantages. We were compelled to move from the old building at the first of the year, and had no laboratory facilities until March 15, when work was begun in one of the laboratories of the new building. No provision could be made for

laboratory work for the students in Chemistry I. The students in Chemistry III and IV, by working double time, were enabled, creditably, to complete the requirements. And in some instances the work was of a high order of excellence.

I wish to commend the adjunct Professor of Chemistry, Mr. H. E. Morrow, for his faithful and efficient services. I should like to see him put on the same footing, as regards salary, with the other instructors of like grade.

### NEEDS OF THE DEPARTMENT.

These I put in order of their urgency.

1. Completion of the equipment with work tables, hoods, etc., of the laboratories of the new building, and seats to accommodate two hundred students for the lecture room. All this should be *now*. To attempt to use any of the material from the old building would be unwise.

2. Steam heating arrangements, connection to be made with the central heating plant.

3. Completion of the basement of the new building. If this be done, corroding will be avoided.

4. At least one student assistant, and two if possible.

5. Electrical connection with the Engineering Hall.

For the maintenance of the Department of Chemistry in the University of Arkansas the following legislative appropriations will be needed:

1. Chemicals .....	\$ 900.00
2. Apparatus .....	1,400.00
3. Books and journals .....	500.00
4. Back numbers of journals .....	200.00
5. Binding of journals .....	100.00
6. Gasoline .....	250.00
7. Reagent bottles .....	200.00
8. Freight, drayage and express .....	200.00
9. Distilling apparatus .....	50.00
10. Sundries .....	150.00
11. Completion of basement of new building .....	600.00
12. Completion of attic .....	1,000.00
13. Water-closet in building .....	100.00
14. Cement walk from main building .....	100.00
Total .....	<hr/> \$5,750.00

The enrollment in the department is at present 200, an increase over last year of nearly fifty per cent. Of this number fifty are doing advanced work, hence an increase in the amounts appropriated is necessary.

It is highly necessary that the basement of the new building be completed with cement and ceiling. It is of no use in its present condition except for storage purposes. It should be made available for laboratory use, thus relieving the crowded condition upstairs, and by completing the attic, which is at present wholly useless, we should have accommodation sufficient for the needs for several years to come.

The appropriation for books, journals, etc., is urgent. Works of reference and journals are indispensable for advanced work in chemistry. The number of students doing advanced work is continually increasing and provision must be made for them, else their training will be deficient. Many of the reference books in the chemical library are out of date. They should be replaced and their number added to. There are in the library incomplete sets of two of the leading chemical journals—the Journal of the London Chemical Society and the Berichte. These sets should be completed by purchase and bound, for in their present condition their usefulness is limited. The time to complete them is *now*; with every year the difficulty and cost of completing them increases.

Respectfully submitted,

CHARLES G. CARROLL.

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## REPORT OF THE PRINCIPAL OF THE BRANCH NORMAL COLLEGE.

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GENTLEMEN: So remarkable has been the awakening of the Branch Normal College during the school year which closed on the 5th instant, that I shall abbreviate this report so that its recommendations may stand out in relief and be the more easily remembered.

## GAINS MADE DURING THE YEAR.

The important gains which the school has made during the year are as follows:

1st. An increased enrollment.

2nd. Marked enthusiasm on the part of the student body, bidding fair to make the name of the Branch Normal College a household word among the colored people of the State.

3rd. The most hearty co-operation of the Alumni body.

4th. The passing of all opposition to the work.

5th. The vigorous support of the colored people.

6th. An harmonious faculty.

So marked have been these gains that the white press of Pine Bluff, at the close of our school year, went far out of its way to beg that the principal of the college be given broader opportunities to develop the school.

I proceed at once to enumerate the needs of the Branch Normal College, feeling certain that you will recognize them as such without extended comment from me; and I name them in the order of their importance:

*Annual Visit of the Trustees.*—An annual visit by the whole Board of Trustees is the most pressing need. Such visits will lift much of the burden from the resident trustee, inspire the colored people with confidence in the real interest of the State in their one State institution and will give the school a standing such as it does not have.

*A Larger Contingent Fund.*—A contingent fund large enough to enable the principal to travel in the interest of the school and give greater publicity to its work is next. The amount allowed for this fund during the past four years, while perhaps as large as in preceding years, has been so small that the principal has come to feel that he was doing something for which he ought to be ashamed whenever he has had to ask for funds to put into operation any movement for the good of the school which is not specially covered by an enacting clause of our biennial appropriation bill.

\$30,000 for a combined dormitory for young men and assembly room. A boys' dormitory is needed for the growth of the school; while a new chapel has become necessary, because the school has outgrown the old one.

\$550 for the installation of a printing plant, and \$500 a year for a teacher's salary for same.

\$550 for the equipment of a harness shop and \$500 for a teacher.

\$600 for the equipment of a shoe shop and \$500 for a teacher.

\$500 for a laundry plant and \$500 for a teacher.

\$250 for equipment of a millinery shop and \$500 for a teacher.

\$600 for salary of teacher of instrumental music.

A new outfit of sewing machines.

A new outfit of typewriters.

And lastly, permission for the principal to go to the next Legislature and plead for these improvements.

Respectfully submitted,

ISAAC FISHER,

Principal.

## ENGLISH AND MODERN LANGUAGES.

*President John N. Tillman, University of Arkansas.*

DEAR SIR: In order to be as near as possible to my father, who is living alone in New England and is advanced in years, I have resigned my present position and accepted the professorship of Germanic Language in the University of Maine.

If I may be permitted, I should like to make some recommendations in regard to the department to whose interest I have become so attached:

1. That two teachers be added, one in German and one in Spanish and French, both to be genuine specialists.

2. That Department of English and Modern Languages be divided into *three* (not two) departments: 1, English; 2, German; 3, Romance Languages (French, Spanish and Italian). Departments of Modern Languages are becoming obsolete. The division into Germanic and Romance departments promotes specializing and efficiency on the part of the teachers.



3. That Associate Professor Shannon be made Professor of English and that he be assisted by Mrs. Blake and Rev. A. L. Harvey, the present instructors in English.

4. That adjunct Professor Marinoni be made head of the Romance Department, and that his salary the coming year be not less than \$1200, nor more than \$1500. He has rendered very efficient service. I also recommend that he be assisted by an adjunct professor, with a salary of not less than \$1000.

5. That a professor of Germanic Language be selected with a salary of not more than \$1500, to be assisted by an instructor with a salary of not less than \$750, nor more than \$1000.

Respectfully yours,

JOSEPH W. CARR,  
Professor of English and Modern Languages.

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## MECHANICAL ENGINEERING AND MECHANIC ARTS.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following report for the Mechanical Engineering and Mechanic Arts Departments for the school year 1905-06.

The number of students enrolled in the different departments has been as follows:

Shop work .....	326
Drawing .....	65
Recitation .....	57
Total .....	448

The very large number of students enrolled shows that we need an additional instructor as outlined in last year's report. Possibly we can get along the coming year, but the teaching force and the shop accommodations are inadequate.

The best of feeling has existed this year in the department. The instructors have shown much interest and ability

in their work. I regard the interest and good work a result of allowing the head of the department to select his assistants. The men selected, Mr. E. B. Critzer and Mr. Brainard Mitchell, are well suited for their positions in training and experience, as shown by their efficient work this year.

I would call attention to the equipment of the Mechanical Laboratory, inasmuch as we have not before had anything in this line worthy to name. While our present equipment is not large, we can give most of the standard tests that are offered in the laboratories of the prominent technical schools of the country.

Next year I will be able to put the laboratory equipment in better condition and arrange for a few more tests.

The shop, while not large enough and adequately equipped, is in such shape that the work in all branches offered can be taught fairly well, to the number now taking the work. Larger and better equipped shops are needed, as our present shop, put at a low cost, was intended only for temporary quarters, but when the last appropriation was made for this purpose the money was used for the erection of the Engineering Building. I wish to ask you to call the attention of the members of the Board of Trustees to the need of a new shop building and additional equipments, so that they will work to get a large appropriation.

Our present inventory shows that the department has several thousand dollars less equipment than before the fire, and yet the Department is much larger than at that time. After the fire the Department was in very bad condition, it being without building, equipment or even rooms suitable for recitation work. Added to this was a general change in the personnel of the instructors. All this shows that the department was in a very poor condition. In contrast to this, the Mechanical Engineering Department now has a large number of students in the various classes and is in this respect, at least, one of the leading departments of the University. The grade of work done is being advanced year by year and I take much pride in the fact that the department is doing such good work after having experienced so many drawbacks.

During the year I have had built a foundry room and a new boiler house; also a new boiler has been installed. The plans and specifications for these were drawn up by the men in the department and the character of the work can be best

judged by an inspection of same. The boiler room is large and much more convenient than the old one, much labor being saved in handling the coal by the new arrangement. Both buildings were erected at a reasonable cost and are very substantial.

The new boiler has been in use since December and has given thorough satisfaction, developing on test fifty per cent. more horse-power than it was rated to develop, even though it was fired during the test with a poor grade of slack coal. The boilers now work at a higher efficiency than ever before, the present year having shown quite a saving of fuel in the heating done. The heating and plumbing repairs made by Mr. Grissom this year have made quite a saving for the institution and, what is really more important, all of the various pipes, connections, etc., have been kept in practically continuous operation, so that the work of the various departments has not been subject to annoyance from breakage or lack of heat.

The fuel fund on hand will not be sufficient to carry through the coming winter, due to the fact that the new dormitories, Agricultural building and Chemical building will probably about double the amount of fuel heretofore required. At present it is not possible to estimate the money needed, as we cannot tell how much coal will be used and the price of coal is very uncertain.

To meet this extra demand for heating the dormitories I suggest that each boy and girl rooming in the dormitories be required to pay fifty cents per month each for the coming school year, which is really less than the heating would cost. An extra fireman will be necessary for the girls' dormitory and provisions should be made for paying him.

Respectfully submitted,

B. N. WILSON,

Professor of Mechanical Engineering  
and Superintendent of Mechanic Arts.

## REPORT OF COMMITTEE ON BUILDINGS AND GROUNDS.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: As members of the Committee on Buildings and Grounds we would very respectfully offer the following suggestions:

First.—That the Honorable Board of Trustees hire a man by the year to do repair work; that is, place him on a regular salary. Such a man should be able to do carpenter work, glazing, repair slate and tin roofs, etc. During the past year it was necessary, for the greater part of the time, to keep a man at such work and pay him by the day. With the new buildings in addition, it will greatly increase the work in supervision and repairs.

Second.—There should be a frame building erected, away from the other buildings, to be used as a workshop and store-room—a place to store scraps of lumber, glass, paints, etc. At present much of this material is wasted for want of a suitable place to store it, until such time when it can be used. It is either burned or thrown away, as it is not considered good policy to store it in any of the larger buildings, on account of the fire risk. Judging from our experience of the past year, we would estimate a considerable saving to the University if these suggestions were adopted.

For the next two years it will require a large repair fund, especially on the main building and the old dormitory. The outside woodwork on these buildings has been so long neglected that it will be necessary to renew some of it. The tin roof on both of these buildings should be renewed.

During the past year the entire system for the water supply was worked over. The old four-inch line was replaced with a six-inch line, and three new fire hydrants were added. This arrangement now gives a good fire pressure for all of the buildings, except the main building. For this building it will be necessary to augment the pressure with a fire pump. The appropriation of the last Legislature, \$600, for this pur-

pose was found to be insufficient. The market price for such a pump, large enough for this purpose, is about \$2000, installed in place.

Very respectfully submitted,

GEO. A. COLE,

J. J. KNOCH,

Committee.

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## MATHEMATICS AND ASTRONOMY.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the report of the Department of Mathematics and Astronomy for the year ending June 30th, 1906.

The number of students enrolled is 273; last year the enrollment was 233. At the beginning of the year the work was divided as follows:

### PROFESSOR DROKE.

Mathematics 1, Sections 1 and 2 .....	6 hours per week
Mathematics 1-a .....	1 hour per week
Mathematics 3 .....	1 hour per week
Mathematics 5, Sections 1 and 2 .....	4 hours per week
Mathematics 5-a, Sections 1 and 2 .....	2 hours per week
Mathematics 6 .....	3 hours per week
Mathematics 9 .....	2 hours per week
Astronomy .....	2 hours per week
Advanced Calculus .....	1 hour per week

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22

In these classes 162 students were enrolled by the first term and 147 by the second term.

### ASSOCIATE PROFESSOR DUNN.

Mathematics 1, Sections 3, 4 and 5 .....	9 hours per week
Mathematics 2, Sections 1, 2 and 3 .....	6 hours per week
Mathematics 4, .....	3 hours per week
In the Department of Ancient Languages .....	4 hours per week

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22.



Total number of students enrolled is 219. In Mathematics, there were 155 students enrolled. This class was divided into five sections, and hence each section contained 31 students. There should have been at least eight sections. Also, in Mathematics 4 the enrollment was 44, quiet enough for two full sections. Under these conditions, it seems unreasonable to ask Professor Dunn to teach Greek. Therefore I earnestly request that you make other arrangements for the instruction in Greek.

As a rule the students have done very satisfactory work. In this connection, I desire to thank you for your valuable assistance in urging students to their best efforts, and for ridding the class of those who persistently refused to work.

Very respectfully,

GEO. W. DROKE,  
Professor of Mathematics.

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## DEPARTMENT OF AGRICULTURE.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: In accordance with the usual custom, I have the honor to submit the biennial report of the work done along instructional lines, and the needs of the Department of Agriculture.

On taking charge of the department July 1st, 1904, I found that very few students of the University were taking studies in this department. Six were reported for the session of 1903-1904. Forty-five students elected work in Agriculture the first term of 1904-1905. By the end of the session sixty had entered the classes.

In compliance with Section I of the Fletcher Bill, the instruction work has been organized under three general courses, the details of which are to be found on pp. 138-149 of the catalogue of 1905-1906.

The year 1905-1906 has been a very active one, and one of progress under the new arrangement. An unprecedented

number of students elected courses in Agriculture. The following table exhibits the number of students enrolled for the past three years:

1903-4.—Senior, 1; Junior, 2; Sophomore, 1; Freshman, 2; Preparatory, 0. Total, 6.

1904-5.—Senior, 3; Junior, 6; Sophomore, 10; Freshman, 16; Preparatory, 25. Total, 60.

1905-6.—Senior, 21; Junior, 16; Sophomore, 15; Freshman, 45; Preparatory, 35. Total, 132.

Thirty of the number enumerated for 1905-06 are enrolled for the full four years course in Agriculture. Quite a number are taking the Science course with Agriculture as their major study, and the remainder are electing from two to five hours study per week in Agriculture.

I instructed classes during the session of 1905-06 as follows:

#### FIRST TERM.

SUBJECT	NO. OF STUDENTS	NO. HOURS PER WEEK
El. Agriculture and B. K. ....	3	31
Forage crops .....	2	9
Goat and sheep raising .....	2	5
Irrigation and drainage .....	3	15
Soils and how to treat them (2 secs.) .....	3	..
Farm management .....	2	11
Care of animals .....	3	15
Total .....	21	119

#### SECOND TERM.

SUBJECT	NO. OF STUDENTS	NO. HOURS PER WEEK
El. Agriculture .....	3	35
Farm drainage and tillage .....	4	22
Manures, fertilizers and farm crops (2 secs.) ...	3	34
Rural Economics .....	2	10
Soils, plant and animal life .....	2	18
Stock breeding and feeding .....	3	13
Total .....	20	132

#### NEEDS.

We will need funds to buy books, periodicals and equipments. There are a very few books in the general library

relating to Agriculture. We cannot hope to maintain interest in this department without the equipment necessary.

At least \$2500 will be needed for books and equipment.

Respectfully submitted,

GEO. A. COLE,  
Professor of Agriculture.

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## ECONOMICS AND SOCIOLOGY.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: Since the introduction of the elective system in the University the study of Economics and Sociology, involving as it does problems of vital civic and business interest to the young American, has become more popular with the student body.

That this, the youngest department of the University, is rapidly growing may be seen from the fact that the departmental enrollment this session is 225, more than fifty more than last session and three times the number enrolled before the elective system was introduced. This estimate does not include a class in Civil Government, numbering 80, which I teach in addition to the regular work in Economics and Sociology.

The courses offered in the department this session embraced general economics (two sections); money, banking and transportation; insurance, advertising and stock exchange; sociology and charities; business law, covering a study of bills, cheques and notes, agency and contracts; pleading and evidence. These courses involve twenty lecture periods per week, besides two periods for the Civil Government.

I am sadly in need of an assistant in the department to do the work in elementary economics and correct the themes, but think it advisable not to formally ask for one until the next biennial session of the General Assembly.

The last General Assembly appropriated \$400 for the Department of Economics and Sociology, of which \$87.77

was on hand the first of June. I herewith submit an inventory of the property of the department.

The department is also sadly in need of a larger reference library, there being only three hundred and ninety volumes on hand in the departmental library. A biennial appropriation of \$750 for this purpose is absolutely necessary to meet the reference needs of the economic students.

I would most respectfully submit the following as a conservative estimate of the needs of the department for the next biennial period:

Assistant in Economics, \$1200 per year .....	\$2400.00
Books and magazines .....	750.00
Furniture for recitation room.....	150.00
Total.....	<u>\$3300.00</u>

#### INVENTORY OF THE PROPERTY OF DEPARTMENT OF ECONOMICS.

1 desk.....	\$ 10.00
2 maps.....	12.50
10 chairs.....	10.00
190 volumes on hand June 1st, 1905 .....	327.11
200 volumes added since June 1st, 1905 .....	320.00
Value of files of departmental magazines.....	100.00
6 benches.....	9.00
Total.....	<u>\$788.61</u>

#### EXPENDITURES OF DEPARTMENT FOR FISCAL YEAR ENDING JUNE 1, 1906.

Balance on hand June 1st, 1905 .....	\$401.77
Expenditures for fiscal year ending June, 1906 .....	314.00
Balance.....	<u>\$ 87.77</u>

Very respectfully,

C. H. BROUGH,  
Professor of Economics and Sociology.

## PREPARATORY DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: The enrollment in the Preparatory School for the year 1905-1906 is 549, an increase of 145, or 36 per cent. over last year. Of these, 305 are first year and 244 second year students. It is gratifying to note that the greater increase is in the second year class, the increase in the first year class being 31.5 per cent. and the second year class 42.6 per cent.

Notwithstanding the large increase in attendance without any increase in the teaching force, the record shows marked increase in the progress of the students. During the first term of the session of 1904-05 only 36 per cent. of the students entering the examinations passed in all studies; this year 51 per cent. passed in all studies, showing an increase of 15 per cent.

The percentage of failures is still too large, and it behooves me to enumerate some of the causes and make suggestions for their removal.

1. Many students enter poorly prepared and are too young to undertake the work. The entrance examinations should be more rigid and no applicant under fourteen years of age should be allowed to matriculate.

2. The course is too heavy to be completed by the average student in two years. If the first year class is not abolished, the studies of that class which can be and are successfully taught in the public schools—namely: arithmetic, English grammar and United States history—should be dropped. This would leave enough in the course for two years work.

3. *Discipline.* Preparatory students of tender years have been placed under the same restrictions, or rather lack of restraint, with collegiate students of more mature minds and habits and too early thrown upon their own resources and responsibility. This evil has been remedied to some extent, and teachers who have been in the department for many years assure me that the discipline has been better this year than they have ever known it. In addition to this, the system of advisers inaugurated by you has been very beneficial to



the department. To the improvement in discipline and influence of advisers I attribute, in a large measure, the improvement in the work of the students.

4. *Inadequate Teaching Force.* That you may understand the overcrowded conditions of the sections, I submit the accompanying table showing the number of students in mathematics, English, history and Latin during the first term, 1905-6:

#### FIRST YEAR CLASS.

SUBJECT	NO. OF SECTIONS	NO. OF STUDENTS ENROLLED	AVERAGE IN EACH SECTION
Arithmetic .....	7	348	49 5-7
Algebra .....	7	369	53 4-7
English .....	6	281	46 5-6
History .....	5	276	55 1-5
Latin .....	4	164	41

#### SECOND YEAR CLASS.

SUBJECT	NO. OF SECTIONS	NO. OF STUDENTS ENROLLED	AVERAGE IN EACH SECTION
Geometry .....	7	275	39 2-7
Algebra .....	5	211	42 1-5
English .....	5	290	58
History .....	5	214	42 4-5
Latin .....	2	70	35

The teaching force consists of eight instructors with an average of 20  $\frac{1}{4}$  hours a week, and the principal with twelve hours class work. During the second term I relieved the crowded condition of the sections slightly by employing, with your approval, two seniors for a total of nine hours, at a cost of \$82.00. By reference to communications to President Hartzog from my predecessor dated September 23 and December 27, 1903 and October 21, 1904, you will find that with an enrollment of four hundred, it was urged that a force of ten regular teachers is the minimum for good work.

The present corps of instructors are able, proficient and energetic. Without exception they have sustained me in every undertaking for the betterment of the department. Overworked as they are, no word of complaint comes from them. But in the interest of the boys and girls who are here for instruction, they join me in an appeal for relief. With the prospect of a still larger attendance next year, some relief seems to be imperative.

The following is the report of financial conditions and the invoice of property:

## FINANCIAL CONDITION.

## RECEIPTS.

Balance on hand as per report of May 18, 1905 .....	\$ 88.74
Legislative appropriation for two years .....	500.00
	<hr/>
	\$588.74

## EXPENDITURES.

Furniture, fixtures and repairs .....	\$114.15
Books for study halls .....	66.28
Office supplies .....	53.79
Balance on hand June 14, 1906 .....	354.52
	<hr/>
	\$588.74

## INVOICE.

Amount of invoice, May 18, 1905 .....	\$1,441.91
Additions—	
Reading room in girls' study hall .....	\$11.00
Desks in girls' study hall.....	90.35
Light fixtures in rooms 13 and 18.....	17.25
Reference books in study halls .....	70.20
	<hr/>
Amount of invoice, June 14, 1906.....	\$1,630.71

For two years ending June, 1905, the appropriation for the maintenance of this department was \$629, but the Legislature of 1905 cut this appropriation to \$500. During these two years the enrollment in the preparatory department has increased nearly fifty per cent. and in all probability, before the end of the next two years, the enrollment will be double what it was in 1904-05. Last year the enrollment of the preparatory students was 549, and besides, a large number of collegiates had back work. This year the enrollment will doubtless go beyond 600. With this increase only one teacher has been added to the force. The principal heretofore has devoted about half of his time to teaching, but the work of the department has grown so that all his time is demanded for the executive and supervisory work of the office. The teaching force is entirely inadequate.

Without taking into consideration a probable future increase in attendance, provision should be made for at least three additional instructors, and the principal should be provided with clerical assistance.

On a basis of 600 students \$1200 will be needed for the maintenance of the department for the ensuing two years, and I recommend the appropriation of that amount.

Respectfully submitted,

W. A. RAMSEY,  
Principal Preparatory Department.

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## ELOCUTION AND PHYSICAL CULTURE.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following report of the Department of Elocution and Physical Culture:

In connection with the Department of Music, we have given four recitals during the year.

A number of bound volumes and pamphlets have been added to our library, all of which have been great help to the pupils.

The number of pupils is constantly increasing, and we are greatly in need of an assistant teacher. A comparison of the roll-books for 1904-05 and 1905-06 shows an increase during this year of more than 200 pupils, making a total enrollment of about 370 pupils in Physical Culture and Elocution.

This department has at present a part of the sum appropriated for its maintenance that might be used to pay an assistant teacher for classes in physical culture, until the next appropriation is made, when the remainder of her salary could be paid. By careful management we could spare \$300 toward an assistant's salary. I ask your careful consideration of this matter.

The very material increase in the past two years in the number of students pursuing this course will necessitate an appropriation above that requested two years ago. This department is suffering from a lack of teaching force.

Several years ago when the attendance at the University was not more than five hundred, and before the Department of Physical Culture was added, the instructor in Elocution had all the work that one teacher could perform successfully. Since that time, even in view of the fact that the Physical Culture Department has been added, and that the attendance at the University has increased to more than one thousand students—giving a proportional increase in this department—no assistant has been added. In this department the enrollment in Physical Culture and Elocution classes for the years 1903-4 and 1904-5 was about two hundred. For 1905-6 the enrollment reached almost four hundred, with the probability of a larger enrollment for 1906-7. Every girl in the University who does not study music or art is required to have elocution or physical culture one hour per week, each year she attends school, and elocution and physical culture are required of many music students and of all L. I. students, even though they may study music or art. Art students may enter classes in this department. This brings into the department nearly every young lady attending the University, and since the girls' dormitory has been added, the number of girls attending the University has steadily increased, until there is an enrollment of about 400. Besides, many young men enter the classes in Elocution, Oratory and Dramatic Art. It will readily be seen that it is almost impossible for one teacher to teach successfully so many pupils. Then the preparation for recitals during the year, and for a creditable commencement program require much of an instructor's time and efforts. The advantage to pupils derived from these recitals cannot be overestimated. Not only does this offer them a greater incentive to put forth their best efforts, but it helps them to overcome the nervousness which often mars the performance of students who have not the opportunity of appearing frequently before an audience. We are greatly in need of an assistant in this department. Many educators use the term "Elocution" meaning only the committing and reciting selections of more or less value, and usually less, with no higher purpose than that of receiving applause and commendation, and with the too frequent result of engendering in the minds of the pupils erroneous and exaggerated ideas of his performance and of his own power, and belittled ideas of the value of thorough and extensive study.

Elocution is the handmaid of literature, just as instrumental playing is the handmaid of music. Elocutionists should interpret literature, and good literature at that. Expressive reading tends to increase the love for good reading, and is a valuable means of mental discipline. It is not the imported knowledge of Carlisle's work in literature that we need, but the stirring effects of Carlisle's noble heroics upon the youthful soul. The study of elocution develops the imagination to the extent that enables the pupil to understand, appreciate and love the best in literature.

The best good cannot be accomplished where we must teach in large classes.

On account of the large number of pupils enrolled in this department since school opened in September, I have been compelled to employ one assistant, paying her a small salary from money received from recitals and from my own salary. I respectfully ask that eighteen hundred dollars (\$1800) be appropriated for an assistant for 1907-8 and 1908-9.

Summarizing, the needs of the department are:

Repairs and improvements in gymnasium .....	\$ 400.00
Three mats (two at \$15 and one at \$60) .....	90.00
Music for gymnasium drills for two years .....	160.00
Seats for gymnasium .....	30.00
Books for elocution department .....	200.00
Vaulting box .....	50.00
Stamps and stationery .....	20.00
Two dozen pairs of Indian clubs at \$2.50 each .....	60.00
Running expenses of Elocution and Physical Culture Department .....	-150.00
Springboard .....	30.00
Thirty-five pairs of dumb bells .....	14.00
Four dozen wands .....	76.80
Two four-pound medium balls .....	9.00
Salary for assistant for two years .....	1,800.00

Respectfully submitted,

MRS. WILLIE VANDEVENTER CROCKETT,  
Instructor in Physical Culture and Elocution.



## ANCIENT LANGUAGES.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to transmit herewith the report of the Department of Ancient Languages for the year 1905-1906.

The work of the department has on the whole been very satisfactory. The students have done good work and a larger percentage than usual succeeded in passing. The enrollment in the collegiate classes has been 119. In the Preparatory Latin the enrollment has been very large, which insures large classes in that subject for next year.

The chief need of the department at present is a larger teaching force. There is no other department in the University which is so crowded with work as is the department of Latin and Greek. All the work is done by myself, except that Professors Dunn and Harding each teach one class in Greek. Almost all other colleges and universities of a similar grade have from three to six men teaching Latin and Greek. The result of our limited teaching force is that we are unable to offer as great a variety of courses as are offered in other departments, and as should be offered the students of a State University.

Thanking you for your co-operation and assistance, I am,

Very respectfully,

JOHN C. FUTRALL,  
Professor of Ancient Languages.

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## GEOLOGY AND MINING.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: It is respectfully requested that you ask for a building for Geology and Mining, in your report to the next General Assembly of the State. The reasons for making this request are as follows:

First. The Museum, which is now situated on the fourth floor, is already crowded to its utmost, and it is desirable both from the standpoint of the public and of the department, that the collections of the Museum be materially increased as rapidly as possible. It is further true that the Museum being located as it is, on the fourth floor, is largely inaccessible to the public and the student body generally, to both of whom it is intended as a means of education. It is further true that in its present quarters, the Museum is in constant danger of destruction by fire. It should be placed in quarters that are practically fireproof, for a Museum is not a thing that can be built up in a day. It is the result of years of effort, and much of the material, once destroyed, cannot be replaced.

Second. There is not room in the present quarters of the Department of Geology and Mining to permit the work to be done as it should be. There are already two teachers in the department, and others will be needed at an early date. There is but one recitation room, so that when the teachers have classes at the same time, one is forced to go off in some corner of the museum, library or elsewhere, to hear his class.

Third. The laboratory of the department is so small that every year it becomes necessary to turn away students who desire to take the laboratory course. The offices of the teachers are entirely too small for their needs. There is great need of a drafting room. No place is now available for this kind of work, which is very necessary to the best results of the department.

Fourth. There is a great need for an ore dressing laboratory in connection with the work in Mining Engineering. Also a laboratory for assaying is a necessity.

Fifth. There is need of a good-sized storeroom in which material that comes in for the museum can be placed and worked over before it is put in a permanent position in the museum. This room could also be used as a workroom, which is much needed in the preparation of relief maps, mining models and other teaching appliances.

Inasmuch as this building should be practically fireproof in order to protect the material in the museum, it should be a more expensive building than those that have heretofore been placed on the campus. It is therefore requested that you ask for the sum of \$75,000 for this building and its equipment. On making an estimate of the amount of space needed for the museum, and the other purposes named, allow-

ing for expansion of the museum, a building of about the following dimensions would be necessary: A main building 55 feet x 120 feet, with two wings each 34 feet x 45 feet, the whole building to be two stories high and a basement.

The museum space at present is 6054 square feet and, as already stated, it is crowded to its utmost. The space provided for a museum in the contemplated building is 8570 square feet. This allows something over 2000 square feet for expansion.

Respectfully submitted,

A. H. PURDUE,  
Professor of Geology and Mining.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: In reply to your request for funds needed from the State for the next two years for this department, would say that this department will need one thousand (\$1000) dollars for an assistant.

Your humble servant,

J. H. NORTON,

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### THE UNIVERSITY BAND.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I hereby recommend the following amount for the support of the U. of A. Band for two years:

Repairing of band instruments .....	\$100.00
Music, music racks and general equipments .....	100.00
Total .....	<u>\$200.00</u>

FRANK BARR,  
Band Instructor.

## GERMAN DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: The most urgent needs of the German Department at present are:

(1) *An Associate Instructor.* At the present writing I have 244 students—a number impossible for one teacher to manage satisfactorily for any protracted period. I suggest that said instructor be paid annually a salary of \$1000, of which \$500 would come from money granted every department, the other half from money granted the Department of Romance Languages, where the need of an instructor is equally pressing.

(2) The sum of \$500 to buy books for the departmental library, notably a German Encyclopedia.

Sum total, \$1500.00.

Respectfully,

JOAKIN REINHART,  
Associate Professor of German.

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## PLANS AND SPECIFICATIONS.

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*Arkansas State University, To Chas. L. Thompson, Dr.*

To plans and specifications for University buildings, at two and one-half per cent.

Girls' dormitory .....	\$39,950	\$ 998.75
Boys' dormitory .....	20,048	601.20
Science Hall .....	10,961	274.02
		\$1873.97
By cash, September 9th, 1905 .....		1000.00
		\$ 873.97
Balance due .....		

## VETERINARY DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: Statement of buildings, equipment and funds for Veterinary Department for two years following April, 1907, are presented to you in accordance with request.

The bearer is Dr. W. Lenton, who now has charge of all the work included in the estimate.

Very respectfully,

R. R. DINWIDDIE.

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## VETERINARY SCIENCE DEPARTMENT.

Estimate for two years, beginning April 1st, 1907:

Building for class and clinical work .....	\$2,000.00
Equipment .....	1,000.00
Maintenance .....	1,000.00
Traveling expenses, for investigating and diagnosing outbreaks of contagious diseases .....	1,200.00
Salary of Veterinarian .....	2,000.00
Total .....	\$7,200.00

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## ROMANCE LANGUAGES.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I submit to you a statement of the needs of the Department of Romance Languages for the two years 1906-07-08:

1. A teacher to assist in giving instructions in this department and in the Department of German, a request which has been mutually agreed upon by Professor Reinhard and myself. The salary paid should be at least \$1,000 a year. And this demands an appropriation of \$2,000 for the



two years, of which one-half shall be paid by the Department of Romance Languages and the other half by the Department of German.

2. Five hundred dollars to be used in purchasing books in the three languages (French, Italian, Spanish), and for subscriptions to some of the leading French, Italian and Spanish reviews.

Salary to be paid to a new teacher .....	\$1,000.00
Books .....	500.00
Total .....	<u>\$1,500.00</u>

Respectfully submitted,

ANTONIO MARINONI,  
Associate Professor of Romance Languages.

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## DEPARTMENT OF ENGLISH.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: The Department of English needs money to buy books for the proper equipment of our library for the use of students. It needs, besides, at least two theme readers, that we may give our students continual practice in writing themes that they should have for the best development. With the large number which we now have in English I and II, it is impossible for our present force to read as many themes as the students should write.

For books .....	\$1,000.00
For theme readers .....	1,500.00
Total .....	<u>\$2,500.00</u>

Respectfully,

EDGAR F. SHANNON.

## DEPARTMENT OF PHILOSOPHY.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I herewith submit my report of the needs of this department for the next two years:

Departmental library books .....	\$ 300.00
Equipment of Psychological Laboratory .....	1,000.00
Total .....	\$1,300.00

Psychology, like biology, geology, physics, etc., needs a laboratory, to do anything like efficient work, and hence I again call your attention to the needs of this department. I can teach psychology no better without my laboratory than a professor of physics or chemistry can teach without his laboratory.

Respectfully submitted,

W. S. JOHNSON.

## UNIVERSITY NORMAL SCHOOL.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor of submitting for your consideration the condition and the needs of a University Normal School. The passage of the bill at the last session of the Legislature making the Normal Diploma the equivalent of a life certificate has a splendid effect in the increased attendance of this school. The Normal School has had a continual growth since my connection with the University, as is evidenced by the increased attendance and the number graduating therefrom. In 1903 there was six graduates; 1904, ten graduates; 1905, twelve graduates; and 1906, seventeen graduates; the present senior class numbers twenty, and of the present junior class, should all return next year, we will graduate forty-eight.

This in itself shows the interest the young men and women are taking in properly preparing themselves for this profession.

So much of the future progress of the State of Arkansas depends upon the public school teacher that Arkansas must have a Normal school second to none. I regret to say that we are not as well equipped as we should be, and I trust that the next Legislature will give some special attention to this department of the University.

I am very anxious to see a first-class Normal School in this State. It is an absolute necessity. As the Normal School is already established here at the University, it seems to me that it would be better to equip this one well, rather than to build another one separate and apart from the University. In the first place it is much more economical to a State to have all her educational enterprises centralized, for there are so many studies that are common to all schools and which can be taught by one teacher and the same equipment, whereas all this would have to be duplicated if separated. But aside from the economical point there are other important reasons for placing the Normal School at the University; e. g., the higher standard of scholarship which is maintained, the mixing and mingling with students in the various departments and thus learning something of the various professions.

By actually testing over six hundred students, I have ascertained that with seventy-two per cent. of them, their aspirations and courses in life were determined by public school teachers. Now, since the teacher is to train for all the professions and because of this great influence on the destiny of so large a percentage of his students, it is clear that he should get as thorough an acquaintance with the different schools as possible. This he gets at a Normal School connected with a University and which he does not get at a separate Normal School. This is the main reason why all the large universities of the country are emphasizing their educational departments. This is why Arkansas should thoroughly equip the University Normal School. I have had actual experience in teaching in Normal Schools under both conditions; i. e., where the Normal is connected with the University and where it is separate, and I am thoroughly convinced that it is decidedly best for the students to get their training at the Normal School in connection with the University.

The course of study required for the Normal Diploma here is about the average of that throughout the United States,

which is thirty periods, covering two years of collegiate work, two-thirds of it along literary lines, the other third professional. Now, is it not much better for the student to get this literary work under a University professor?

I hope that I have made it clear that all the literary work done in the Normal School is without a cent's cost to the State, for the teachers would be required, even if there were no Normal Schools here. Now it does seem to me that the great and growing State of Arkansas can well afford to give us all the equipment necessary for the professional work of the Normal School.

The thing most sadly in need of is the equipment of the practical teaching department. Since the Normal Diploma has become a certificate to teach, it behooves us to see to it that the teachers turned out of here not only understand the science and theory of teaching, but that they can *actually teach*. In other words, put their theories into practice. Hence it is necessary that each and every one should have an opportunity to teach children while they are taking the course, under the eye of an expert. We are doing some of this work now with one teacher, but with the large increase in students that we have had this year, we are completely overwhelmed. The practice school is our laboratory and this we must have if we are to have a respectable Normal School. What would an engineering, a medical, or an agricultural school be without its laboratory? The same may in all justice be said of the Normal School without its practical school. Hence I am asking for two critic teachers and one special teacher of singing and drawing, manual and domestic arts.

Owing to large increase in numbers, both in the Normal School and the Department of Philosophy, the work is more than I can handle. Hence I am asking for an assistant professor in education. At present I am attempting to give all the theoretical training at the Normal School and at the same time do the work in the Department of Philosophy. In most of the schools five or six professors are required to do this work.

Again I call your special attention to the item calling for a University Extension Lecturer, whose business will be to travel over the State and bring the work of the University and Normal School to the doors of the people. I have lived in States where this work is done and can say that it is one of the most helpful agencies of the University. Besides, the

University needs an inspector of the accredited high schools, and while he is traveling from one part of the State to the other, holding teachers' institutes, making educational speeches, he can do this work of inspection of the high schools. The State maintains the University in order to develop her people, and why not use the best means of extending the influence of the University so as to accomplish the greatest good possible. This has been tried and now is the adopted policy of all the great universities and most all of the State universities.

In view of what I have said, I submit below what I consider to be a minimum estimate for the maintenance and enlargement of the University Normal for the next two years. To cut off or to cut down a single item enumerated below means to seriously cripple the educational work by that much.

Two critic teachers for practical school .....	\$ 4,000.00
One special teacher in applied arts .....	2,000.00
One assistant professor of education .....	3,000.00
One University extensive lecturer .....	3,000.00
Expenses of extensive work .....	1,000.00
Department library books .....	500.00
Equipment of rooms and supplies for Normal School	1,500.00
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Total .....	\$15,000.00

Respectfully submitted,

W. S. JOHNSON.

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### ARCHITECT'S REPORT.

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*To the Building Committee, Board of Trustees for the University of Arkansas.*

GENTLEMEN: As your supervising architect in charge of the erection of the girls' dormitory, boys' dormitory, chemistry building, agricultural building, hospital building and dairy building, I beg to report to your honorable body that



these buildings are completed according to contract, and that Messrs. Donaghey & McIlroy, contractors for the said buildings, are entitled to a certificate of acceptance of the same.

Respectfully submitted,

O. M. GATES,  
Supervising Architect.

Approved: Reed & Heckenlively, Architects for Agricultural Building, Hospital Building, Dairy Building, by J. L. Heckenlively.

Charles L. Thompson, Oscar M. Gates, Architects associated, for Girls' Dormitory, Boys' Dormitory and Chemistry Building, by Chas. L. Thompson.

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### MILITARY DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following estimate of the needs of the Military Department of the University of Arkansas:

By your appointment I took charge of the Military Department September 6, 1906. The incidental expenses will be much larger for the next two years than any previous years, owing to the fact of a much larger student body, which necessitates more clerical work. The band has doubled in the last two years. The number of cadets drilling has increased 150.

The last appropriation was not adequate for the maintenance of this department, as the contingent fund has been used for the support of the clerical work.

I earnestly recommend the following appropriation for the maintenance of the Military Department:

### EXPENSES FOR TWO YEARS, 1907-9.

- |  |          |
|--|----------|
| 1. Books, printing and stationery .....    | \$150.00 |
| 2. Clerical work, three clerks extra ..... | 800.00   |

3.	Repairs and maintenance of office furniture and fixtures .....	\$ 75.00
4.	Repairs and maintenance of armory .....	75.00
5.	Care and maintenance of 600 Krag-Jorgensen rifles .....	75.00
6.	Ammunition and equipments .....	100.00
7.	Musical instruments and band equipments .....	175.00

Respectfully submitted,

E. G. HOWE,  
Commandant.

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### ART DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I beg leave to submit the following recommendation for the Department of Art in the University of Arkansas.

Since the enrollment of students in this department this year is already almost three times as great as the last two years, the work is being very much handicapped by lack of funds for additional equipments. The old equipments were greatly damaged by fire last year. The art room as yet is not furnished with lockers and the students suffer great inconvenience in caring for their materials.

The greatest need felt just now is in lack of examples of Art to give the students inspiration. In the University there are, indeed, very few works of art to show the student the end for which he is striving. The teacher may give instruction and indicate what is to be done, but farther than this there is no positive evidence of what talent can do. The average student of the University, whether he be in the Art Department or not, sees and knows nothing of the work of the masters. He has the library to afford evidence of what genius has done in literature; he has ready at hand musical compositions to show the result of talent along this line. In art, in its narrow sense, he has nothing to keep him in touch with the master painters. Copies of good paintings are

being made daily by artists of no mean ability and may be secured at little cost. From the purchase of such copies for the University walls there would result an incalculable benefit, not only to the art students, but to the student body at large. I therefore ask especially for an appropriation for the purchase of some copies of the masterpieces.

There is further need of a departmental library furnished with biographies, criticisms, histories, technical treatises and periodicals.

Since the best public schools throughout the country are requiring that drawing and color work be taught, it is necessary that students who go out of the University to teach school should be instructed in these branches. The normal department of the University now requires the students of that department to take Art. There are at present forty-eight students in this department who will be required to take Art next year. It seems an imposition to make a charge for compulsory instruction and yet under the present conditions it is necessary, since the teacher has no salary from the board. I therefore ask that the teacher in Art be put on a salary.

Summarizing, I respectfully recommend that an appropriation be made for:

Teacher's salary for two years .....	\$2,400.00
Departmental library .....	200.00
Lockers and equipments .....	300.00
Copies from the masters .....	500.00
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Total .....	\$3,400.00

Very respectfully,

ELIZABETH GALBRAITH.

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### YOUNG WOMEN'S CHRISTIAN ASSOCIATION.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following report of the Young Women's Christian Association.

The Y. W. C. A., though being organized only two years ago, has meant much to the religious life of the University of

Arkansas. The membership in the year 1905-1906 was one hundred and twenty, thus winning girls to unite with a movement, the pervading purpose of which is to show that every girl needs Christ in her life and to lead them to accept Christ as their Savior and Lord.

The Bible Study classes had almost one hundred girls enrolled. Many nominal Christians have been led into a deeper life and into active service as a result of these groups, led by students. Realizing that the greatest enemy of missions is ignorance, the Y. W. C. A. conducted classes in the study of missions and as a result the girls have been aroused to their personal obligation. Seventy-five dollars was given to missions and seven young ladies volunteered for the foreign fields. In the year 1905-1906 one thousand nine hundred and thirty-one girls were converted through the student Y. W. C. A.'s and one thousand and twenty-one volunteered. Can any one ask if this work is important? Much more can be accomplished if the association owns a building. As long as some individuals judge associations by their outward appearance it will be necessary for the association to use material agencies in its work. A building would broaden the scope of our work. The reading room, Bible and missionary rooms would place our work on a higher plane. The work of the association would attain a greater prominence in the University. In order that the association may meet the demands of an increasing student body, a building is almost indispensable to a greater work.

Very respectfully,

BEULAH WILLIAMS,

Secretary.

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### YOUNG MEN'S CHRISTIAN ASSOCIATION.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following report of the Young Men's Christian Association for the year 1905-06:

## BIBLE STUDY.

The University has no Bible Study. The association offers four courses, corresponding to the four collegiate years.

Classes arranged on basis of ten in a class, led by students with special training.

Number enrolled .....	205
Objective this year .....	400
Number continuing two months or more .....	141
Average attendance per session on basis of ten in class .....	6.31
	<hr/>
	152
Total number of men present .....	1766

## MISSION STUDY.

The greatest advance has been in mission study. Only five enrolled last year. This year a deep interest has been aroused and maintained.

Number of men entering study .....	44
Number of men class study .....	27
Number of men entering private study .....	17
Delegates to Student Volunteer Convention .....	10

Student Volunteer Band organized March 29, 1906—

Number of volunteers .....	12
Number of Y. M. C. A. volunteers .....	5
Number of Y. W. C. A. volunteers .....	7
Number who volunteered this year .....	11

## RELIGIOUS MEETINGS.

These meetings have been well attended, at which live religious teaching has been put forth and various life works presented.

Bible Study meetings .....	3
Mission Study meetings .....	4
Life work meetings .....	3
Devotional meetings .....	23



Evangelistic meetings .....	3
Total weekly meetings .....	36
Total number of men present .....	3285
Average attendance .....	93 $\frac{5}{8}$
Number men who decided for Association work .....	2
Number men who decided for Christ, direct result ....	10
Number who decided for Christ, indirect result .....	30
Renewed vows .....	1
Expressed desire to become Christians .....	2

### PRAYER MEETINGS.

Weekly prayer meetings were held in rooms on Wednesday evenings.

Group meetings at the dormitory Friday evening.

Number sessions .....	22
Average attendance .....	15
Number sessions group meetings .....	36
Average attendance .....	55
Total number of men present .....	2310

### SOCIAL.

Two receptions were given during the year by the Ladies' Auxiliary to the student body; 600 present.

### MEMBERSHIP.

Among the members were to be found men of every class, organization and denomination. A canvass was made during the opening week. Letters sent to students. Every student given a handbook.

Applications .....	321
Active members .....	87
Associate members .....	87
Total .....	141

### FINANCE.

#### RECEIPTS.

Miscellaneous .....	\$ 185.21
Membership .....	304.35

Lecture course .....	\$ 200.00
Subscriptions .....	400.50
Bible study .....	75.35
Alumni .....	95.65
Handbooks .....	107.85
Legislature .....	1000.00
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Total .....	\$2368.91

## EXPENDITURES.

Miscellaneous .....	\$ 212.99
Handbooks .....	81.25
Heat and lights .....	39.65
Bible study .....	188.65
Inter and State com. ....	70.00
Secretary's salary .....	17.00
Repairs rooms .....	1217.37
<hr/>	
Total .....	\$2327.51

## MISCELLANEOUS.

Letters sent out by Secretary .....	1500
Number boys in gymnasium class .....	50
Number of hours a week given by Secretary to gymnasium .....	12
Number men on committee .....	41
Deputation and visitation work by members .....	

Respectfully submitted,

E. G. HOWE,  
General Secretary.

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**AGRICULTURAL EXPERIMENT STATION.**

*President John N. Tillman, University of Arkansas.*

DEAR SIR: Herewith is submitted report of the director of the Arkansas Agricultural Experiment Station for the fiscal year ending June 30, 1906:

There has been marked improvement along all lines of work connected with the Station during the year just past. Entire harmony prevails among the staff and co-workers, and each head is working with energy, intelligence and enthusiasm.

The rice experiment at Lonoke, which was begun in co-operation with the United States government, has been carried to a successful issue. Thirty acres were planted last year, averaging fifty-seven bushels per acre. A portion of the crop was sold to the farmers of that vicinity at a nominal price to encourage them in the industry. Outside of our experiment there, 5,000 acres is reported in rice this year. This increase is the result of the experiment made by this Station. We are continuing on a larger scale this year for the reason that the plant is there and the U. S. Agricultural Department has promised to assist us in drainage investigations, which we feel is necessary and important, owing to the large amount of water being pumped on the surface of the land. During the past fiscal year the expense was borne by the Station. However, the sale of the rice was equal to the expenses, making it self supporting, which is entirely unusual in experimentation.

We are likewise experimenting at Lonoke with vegetables, fruits, grains and grasses by irrigation. This promises to become as profitable an industry as the growing of rice. We have two other sub-stations, one located at Danville in Yell county, and the other at Experiment, Columbia county. Both these stations have been warmly received by the people in their respective localities, and much good in the way of diversified and intensified farming is being accomplished. A number of experiments are under way, all of which will be duly included in bulletins in due time.

The following bulletins have been issued during the year:

Bulletin No. 87, Glanders of Horses.

Bulletin No. 88, Food Adulterations.

Bulletin No. 89, Rice Growing in Arkansas.

Bulletin No. 90, The Cattle Tick.

Bulletin No. 91, Suggestions upon the Care of Apple Orchards.

The mailing list has increased until the issue is now 15,000. There is a constantly increasing demand for these bulletins, and for advice and information upon all lines of agriculture and horticulture from the farmers of the State

and from other States. The popularity of the Station is further evidenced by many calls upon the director and members of his staff to hold Farmers' Institutes in different sections of the State. Ten meetings of this nature have already been held during the year, and twenty appointments are now made for the summer months. A number of fruit and vegetable associations have been organized as a result of these institutes, and from all sections of the State the demand is for closer touch and instruction in scientific and diversified farming.

Valuable work has been done in the Bacteriological Department in stamping out outbreaks in diseases of hogs, such as cholera and swine plague; also charbon in cattle and glanders in horses.

The departments of Entomology and Dairy Husbandry, created last year, are very popular and are doing good work. Both these departments, however, have been handicapped by lack of room and equipment. With the completion of the Agricultural and Dairy buildings, erected under appropriation of the last Legislature, we feel that the congested condition will be relieved and more and better work be done. Reference is made to reports of the heads of departments.

With the view of a new department, Soil Physics and Fertility, the director respectfully requests that he be permitted to employ a competent man for the coming year as "Assistant or Associate Chemist in Charge of Soil Physics and Fertility." This is much needed to instruct our people and students in the preservation of soils and in the restoration of worn-out soils. It is a department in which other States are doing large investigations and is urged and recommended by the Department at Washington. Large numbers of inquiries along these lines are constantly coming to us, and the conditions in all sections of the State make it a most important issue in agriculture and horticulture.

In the Dairy Department, we have added a number of thoroughbred Jersey cattle to the herd. Have also added hogs and poultry. We have found it necessary to experiment along these lines in order to meet the large number of inquiries received concerning them.

In order to continue and enlarge upon our experiments, more land is absolutely necessary. Proper and economical experiments with stock breeding and raising cannot be carried on by buying feed. It should all be provided on our own farm.

It is especially urged that cognizance be taken of this request, and condition and appropriation be made, or provision, for this purpose.

The Station has recently been visited and inspected by Dr. A. C. True, Director of Experiment Stations, Washington, D. C., and a copy of a letter received from him since his visit is attached hereto and made a part of this report.

## CONJOINED TEACHING AND INVESTIGATION.

The object of the Agricultural Experiment Stations being almost exclusively for investigation, it is the tendency now among the strongest institutions to separate as much as possible the duties of teaching and research. This tendency is in line with the recommendations of the Office of Agricultural Experiment Stations, and, stimulated by recent federal appropriations, will increase in the future. I therefore recommend that in certain departments at least the time of the heads of these departments be devoted to investigation, and that sufficient assistance be supplied to relieve them from more than a general supervision of the educational work in their special lines. Ultimately, as the institution grows, this separation of the work of research and education will probably become complete or almost so.

It is only in this way that the Experiment Station will completely accomplish the functions expected of it.

W. G. VINCENHELLER,  
Director.

## UNITED STATES DEPARTMENT OF AGRICULTURE.

OFFICE OF EXPERIMENT STATIONS.

WASHINGTON, D. C., June 11, 1906.

*Director W. G. Vincenheller, Agricultural Experiment Station,  
Fayetteville, Arkansas.*

DEAR SIR: In connection with my recent visit to the Arkansas Agricultural College and Experiment Station, I fear that I did not sufficiently express to you my gratification at



the progress being made in securing State aid for the proper equipment of the agricultural work of the University of Arkansas, the strengthening and broadening of the investigations of the Experiment Station, and the development of adequate courses of instruction. You have certainly made great progress in these directions and are now in a position to do better work for the great agricultural interests of the State than ever before.

While I am, of course, primarily interested in the work of the Experiment Station, I fully realize that it is equally important that strong and comprehensive courses of instruction in agriculture should be built up at the University. I am very glad to know that a college of agriculture has been definitely formed as one of the branches of the University. As you are doubtless aware, a good college of agriculture cannot be carried on satisfactorily under modern conditions without a considerable faculty of well-trained specialists, representing the different branches of agriculture and horticulture. The agricultural teachers should have ample equipment in the way of building, land, apparatus, illustrative material, etc. This will require that the State shall provide considerable sums for the equipment and maintenance of the agricultural college, but certainly in a State like Arkansas, where the agricultural interests are so great and the vast majority of the people are engaged in agriculture, it is reasonable to expect that the agricultural college will receive adequate financial support.

I was surprised to learn that only a small portion of the Morrill Fund received by the University of Arkansas is now devoted to agricultural instruction, inasmuch as the Land Grant Act of 1862 was intended to provide for the establishment of institutions in which agriculture should be a leading subject of instruction. It does not seem right that only a small fraction of the federal funds given to an institution established under this Act should be used for agricultural instruction. When this question was raised a few years ago in the State of Illinois, the Legislature decided that one-half of the Morrill Fund should be devoted to instruction in agricultural subjects. In other States a similar arrangement has been made, or the State has given the college of agriculture such generous financial support that the question of the exact division of the Morrill Fund is no longer important. With the interest in agricultural education already aroused in

Arkansas, it ought not to be difficult to secure adequate recognition of the just claims of the college of agriculture from the University authorities and the State Legislature.

I have recently visited the agricultural colleges in nearly all the Southern States, and I find in them many things to encourage the friends of agricultural education. They are receiving more generous financial support from the States, and they have better buildings and equipment, growing faculties, and an increasing number of students. The quality of the students taking the agricultural courses is also generally reported to be better than in former years. It seems clear that the general prosperity of the agriculture of the South is leading our people to take a much greater interest in this business, and the farmers are therefore demanding more adequate and suitable education along agricultural lines. Arkansas cannot afford to be behind the other States in joining the great forward movement in agriculture and agricultural education which is going on throughout the country. I have therefore no doubt that when the attention of your people is drawn to the needs of the agricultural work of the State University, they will provide the funds necessary to put the agricultural college and experiment station on the best footing.

Very truly yours,

A. C. TRUE,  
Director.

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## DEPARTMENT OF ENTOMOLOGY.

*President John N. Tillman, University of Arkansas.*

DEAR SIR: I submit herewith the following statement of the Department of Entomology for the fiscal year ending June 30, 1906.

The duties of the Department are two-fold. The most important of these is that of research and investigations concerning various entomological subjects. The idea of research cannot be associated with simple apparatus and text-books, so that it is imperative that sufficient equipment and literature be furnished this department to enable it to carry on this work.

Next in importance is teaching. During the year just closing the classes have been small, owing largely to the newness of the subject, and to an inability to procure hours, for all students applying for the courses, not in conflict with the present schedule of recitations. The teaching has been very unsatisfactory on account of the inadequate laboratory equipment. So much so, that it is respectfully requested that this Department be relieved of teaching during the coming year, unless adequate laboratory equipment is obtainable.

After figuring up the cost of the necessary items the following totals are given under their respective general headings:

Apparatus, equipment and library .....	\$2,700.00
Sundry expenses .....	300.00
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Sum total .....	\$3,000.00

Respectfully submitted,

C. F. ADAMS,  
Entomologist.

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## HORTICULTURAL DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: Herewith is submitted report of the Horticultural Department for the fiscal year ending June 30, 1906:

In general, the lines of work mentioned in my last report have been continued. Encroachment of new college buildings upon the horticultural grounds has interrupted the work along some lines, but new plantings have been made in the horticultural fields and such work will be resumed as promptly as possible.

Work with strawberries was discontinued the last three or four years. They had had considerable attention years ago, and the strawberry industry was already well established here. The work has been taken up again and plantings made with reference especially to studying the fertilizer requirements of strawberry lands.

Bulletin No. 91 was issued in early March, this spring. It gives the results of spraying, the results of pruning experience and experiments, results of a chemical examination of a very badly exhausted orchard soil, some results with fertilizers on young and bearing apple trees, results with resets in old orchards. Several prevalent errors in orchard management are discussed. This bulletin has met with a very hearty reception in this and other States.

Material is on hand for reports upon grapes, and several vegetable crops, although these crops are still receiving attention.

The year just closed has been in all ways a successful one. Year by year the department has advanced. During the past six years the number of students enrolled has increased fifteen fold. Aside from those entered in the regular horticultural course, a number of students in other departments of the University each year elect one or more courses in horticulture as a part of their general education. The number of students the present year was forty-four. Each year the department of horticulture has had from one to three graduates, who are filling useful and important positions—several being engaged in agricultural colleges and experiment stations.

While very encouraging progress has been made, it is doubtless true that much greater progress could have been made had the department been better equipped for its work, and more liberally supported financially. Thanks to the last General Assembly, and the friends of the cause, agriculture at the University was given more liberal appropriations than ever before. Although the appropriation for this department was not greatly increased, horticulture will share in the benefits. The new and handsome building gives agricultural instruction at the University a home and improves the opportunities and prospect for still greater progress in the future. The new buildings will relieve the generally crowded condition of all departments at the station by affording quarters for the Director, the department of agriculture, and the entomologist, while dairying will occupy its own special building. Horticulture, although remaining in its old quarters, will have a much-needed lecture room in the new building, and some laboratory space (for practice work) on the basement floor.

The work of the department heretofore has included entomology. The latter was made a separate division at the close

of last year, and placed in charge of Dr. C. F. Adams, who takes charge of both instruction and station work in the subject. He has also assumed charge of nursery inspection in the State, which by law passed by the Legislature, 1903, was made a part of the duties of the entomologist of the experiment station—then also horticulturist of the station.

The department of horticulture at the close of last year was also given an assistant. Mr. J. L. Hewitt, a graduate in the University of Missouri, was selected for the position. In view of the growth of the department and increase in the work, including as it does both college and experiment station duties, these strengthening changes were indeed welcome, and needed. And I here desire to express my appreciation of the consideration given the needs of the department by the Legislature in their liberal appropriations, and by all those in authority who have direction of the affairs of the University and Experiment Station.

Nine courses of instruction are offered in the department. Of these, one—a two hour course—has been added the past year. This is a general course in horticulture (fall term) intended to meet the needs of normal students as far as may be in the time. Short special courses are also offered for winter students. These are for practical horticulturists and farmers who can attend college classes for only a few weeks in the winter season. These courses were offered the past winter for the first time. The work of instruction requires twelve to seventeen hours regularly, and more during the short course in winter.

Encroachment of two of the new University buildings has taken a portion of the horticultural grounds near the station building, and rendered necessary the removal of the small variety orchard, and vineyard of one hundred and fifty varieties of grapes, and other experimental plantings. New planting has been made in the horticultural field to replace those destroyed. The cleared grounds may be used for ornamental trees and shrubbery, and tasteful home sentimental plantings to serve for instruction to classes interested roundings.

The advisory relation of the department with the horticultural interests over the State is widening year by year. This brings the college and station into close touch with a large number of people, some of whom are thus led to a better ap-



preciation of the value of education applied to the practical problems of everyday life.

The State has large horticultural interests and they are rapidly increasing. Yet this department intended to help and build up such interests is not adequately equipped. It might well be made the peer of any in these United States.

It may not be out of place to mention the receipt by this department of the college and station of four medals from the Louisiana Purchase Exposition and a personal letter from the officials and President Francis in recognition of our efforts in behalf of Arkansas, and for the "active interest exhibited" in the exposition. The horticulturist had the honor to represent Arkansas on the Jury of Awards in Horticulture. The gold medal commemorates this work. The other three were for fruit and vegetable exhibits.

Very respectfully,

ERNEST WALKER,

Professor of Horticulture.

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## DAIRY DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit herewith report of the Dairy Department for the fiscal year ending June 30, 1906:

There have been few students taking dairying, because of conflicts in recitation periods, and there not being proper facilities for instruction. The outlining of the course in the catalogue, and the completion of the new dairy building, will place the department in a position to give thorough courses.

Equipment to the value of over \$2,300.00 has been loaned by different supply houses for use in the new dairy, with the understanding that at the next session of the Legislature an appropriation will be made to pay for this equipment. At a State institution where instruction is given and experimental

work conducted, it is to the best interest of the department that it be not under obligations to the supply houses for a portion of its working equipment. If paid for now, this equipment, when worn out, will be replaced, free of charge, by the supply houses.

The stable being used to house the dairy herd is entirely too small, and cannot be kept in a sanitary condition. To engage in experimental feeding and to produce pure milk it is imperative that a large and properly constructed stable be provided.

There is urgent need for more land for pasturage and growing of crops for winter feeding. With the present amount of land it is impossible to carry a herd of sufficient size for feeding experiments, and maintain this herd on home-grown feeds—a possibility which should be demonstrated to the farmers of the State.

The needs of the department are as follows:

For the purchase of loaned equipment .....	\$2,300.00
For general maintenance .....	2,000.00
	<hr/>
Total .....	\$4,300.00

Respectfully submitted,

V. A. HOOPER,  
Dairy Husbandry.

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## AGRICULTURAL DEPARTMENT.

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*President John N. Tillman, University of Arkansas.*

DEAR SIR: I have the honor to submit the following report of the Agricultural Department for the fiscal year ending June 30, 1906:

My work is along four general lines:

1. *Farm Supervision.*—As farm manager I endeavor to follow such rotations, and the growing of such crops, as will be generally beneficial to soil fertility, as well as furnishing feed for our farm and dairy animals.

2. *Instruction in Animal Husbandry*.—This course consists of the study of breeds of farm animals, principles of breeding and feeding, and practical work in stock judging.

3. *Continuation of Experimental Work*.—Certain lines of work were under way previous to my taking charge. These consist of tests of varieties of corn, cowpeas, grain and forage crops.

4. *New Investigations*.—Under this head is included corn breeding, selection and breeding of cowpeas and grain, and experimental work with swine and poultry.

#### NEEDS OF THIS DEPARTMENT.

Poultry equipment .....	\$ 500.00
Purchase of poultry .....	100.00
Purchase of farm stock .....	400.00
General maintenance .....	4000.00
Total .....	<hr/> \$5000.00

Respectfully submitted,

R. W. WADE,  
Agriculturist.

*President John N. Tillman, University of Arkansas.*

DEAR SIR: Since the report from this department last year, Bulletin No. 88 has been published, showing food adulteration in Arkansas.

The new work taken up is as follows: The study of the conservation of soil fertility, and especially that of nitrogen; the digestibility of forage crops of this State; nutrition investigations; the origin of the so-called "Prairie Dog" mounds, and a chemical method for destroying stumps.

Respectfully submitted,

J. H. NORTON,  
Chemist.

## STATEMENT.

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STATE OF ARKANSAS, IN ACCOUNT WITH  
DONAGHEY & McILROY FOR WORK DONE ON UNI-  
VERSITY OF ARKANSAS BUILDING, AS CONTRACT-  
ED FOR BY BOARD OF TRUSTEES.

### GIRLS' DORMITORY.

Original contract price .....	\$39,750.00	
By cash paid on same .....	33,837.50	
Balance .....		\$ 5,912.50

### BOYS' DORMITORY.

Original contract price .....	\$24,048.00	
By cash paid on same .....	19,343.50	
Balance .....		\$ 4,704.50

### SCIENCE HALL.

Original contract price .....	\$10,960.00	
By cash on same .....	7,737.50	
Balance .....		\$ 3,222.50

### AGRICULTURAL BUILDING.

Original contract price .....	\$11,982.00	
By cash on same .....	8,431.50	
Balance .....		\$ 3,550.50

### HOSPITAL BUILDING.

Original contract price .....	\$ 6,220.00	
By cash paid on same .....	4,750.00	
Balance .....		\$ 1,470.00

## DAIRY BUILDING.

Original contract price .....	\$ 6,990.00
By cash on same .....	4,000.00
	<hr/>
Balance .....	\$ 2,990.00
	<hr/>
Total balance .....	\$21,850.00
Credit by amount received on one-half freight rate .....	\$ 2,345.95
	<hr/>
Balance due on original contracts .....	\$19,504.05

ADDITIONAL WORK ORDERED AND PERFORMED IN  
EXCESS OF CONTRACT.

## GIRLS' DORMITORY.

Building stairway from kitchen to basement .....	\$ 200.00
Excavating basement; concrete floors; changing opening from window to door, etc.; changing partitions in toilet room .....	75.00

## SCIENCE HALL.

Changing north foundation from rubble to range stone .....	83.50
Extra doors put in base of hood .....	8.00

## AGRICULTURAL BUILDING.

Building sewer line to connection with main sewer..	200.00
Difference in rock settlement and foundation .....	175.00

## HOSPITAL BUILDING.

Difference between slate and single roof .....	400.00
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## DAIRY BUILDING.

Extra cement floor in basement; building rear plat- form; difference in rock settlement, etc. ....	310.32
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## HILL HALL.

Building storeroom .....	\$ 400.00
Grading around building and extra cement work ..	15.00

## GIRLS' DORMITORY.

Screening dining room and kitchen windows and doors; closing openings with folding doors between dining room and hall .....	75.00
Building dish sink in kitchen and plumbing .....	25.00
Plastering basement; building elevator and dish sink, plumbing, etc. ....	150.00
Nine squares slate left on ground by order of Professor Knox and President Tillman, to use for repairing roofs of University buildings .....	67.00
Total .....	\$21,688.87

## REPORT OF SECRETARY OF BOARD OF TRUSTEES.

Following is the financial report of the Secretary of the Board of Trustees for the two years ending June 30, 1906, showing the amounts received and expended, also the balance remaining of each fund belonging to the University, the Agricultural Experiment Station and the Branch Normal College:

## UNIVERSITY.

FUNDS	RECEIPTS	EXPENDITURES	BALANCE
Agriculture .....	\$ 1,283.31	\$ 1,283.31	\$.....
Ancient Languages .....	299.56	77.74	221.82
Annual .....	310.60	310.60	.....
Art .....	1,083.40	893.60	189.80
Biology .....	1,520.99	1,017.43	503.56
Boys' Dormitory .....	20,000.00	20,000.00	.....
Building, furnishing shops, etc.	6,297.22	6,297.22	.....
Campus .....	815.33	703.10	112.23
Chemistry .....	2,109.83	1,856.71	253.12
Chemical building .....	8,000.00	8,000.00	.....

FUNDS	RECEIPTS	EXPENDITURES	BALANCE
Chemistry and Physics .....	\$ 222.42	\$ 222.42	\$.....
Civil Engineering .....	4,803.47	3,681.35	1,122.12
Contingent .....	12,527.90	10,126.34	2,401.56
Economics and Sociology ....	479.99	399.60	80.39
Electrical Engineering .....	5,399.61	4,335.68	1,063.93
Elocution and Physical Culture	2,097.96	1,565.59	532.37
Engineering hall .....	8,000.00	7,374.09	625.91
English and Modern Languages	368.91	341.94	26.97
Fireman .....	563.70	418.15	145.55
Fuel .....	6,991.62	5,786.40	1,205.22
Geology and Mineralogy .....	1,369.23	972.35	396.88
Girls' Dormitory .....	38,500.00	35,000.00	3,500.00
Heating plant .....	7,169.21	6,609.47	559.74
History .....	806.86	791.51	15.35
Horticulture .....	902.71	902.71	.....
Hydrant and sewer .....	15.91	1.85	14.06
Infirmary .....	5,029.85	4,975.30	54.55
Insurance .....	4,377.86	4,083.22	294.64
Interest on bonds .....	14,495.38	11,735.38	2,760.00
Janitor ....	2,750.62	2,346.26	404.36
Library .....	1,531.76	1,234.69	297.07
Mathematics and Astromony ..	391.98	274.11	117.87
Matron and bath house .....	611.15	574.05	37.10
Mechanical Engineering .....	2,104.29	1,545.45	558.84
Mechanic Arts .....	2,040.65	1,664.72	375.93
Medal .....	80.00	40.00	40.00
Military .....	748.03	675.45	72.58
Mining .....	2,036.79	2,036.79	.....
Morrill .....	36,363.64	36,363.64	.....
Museum .....	1,252.74	1,053.10	199.64
Music .....	3,000.00	2,469.70	530.30
Night watch .....	1,332.55	917.19	415.36
Philosophy and Pedagogy ....	1,172.78	1,172.78	.....
Physics .....	2,000.00	1,694.09	305.91
Plumbing .....	748.87	651.20	97.67
Postage .....	1,130.72	1,080.20	50.52
Preparatory Department .....	831.57	452.35	379.22
Repairs .....	5,058.82	4,709.17	349.65
Salary .....	56,628.55	55,003.17	1,625.38
Sanitary improvement .....	3,844.60	3,844.60	.....
Secretary of President .....	1,532.30	973.15	559.15
Stationery and printing .....	1,997.74	1,997.74	.....
Student Labor .....	9,052.77	9,052.52	.25
Trustee .....	1,879.78	1,643.89	235.89
Veterinarian .....	950.73	857.56	93.17
Water .....	2,141.67	1,950.00	191.67
Water mains and U. W. P ...	3,951.00	2,700.41	1,250.59
Y. M. C. A. ....	1,079.47	1,079.47	.....
Totals .....	\$304,088.40	\$279,820.51	\$24,267.89

## AGRICULTURAL EXPERIMENT STATION.

FUNDS	RECEIPTS	EXPENDI- TURES	BALANCE
Agriculture .....	\$ 2,500.00	\$ 2,488.98	\$ 11.02
Agriculture building .....	12,000.00	10,599.10	1,400.90
Congressional appropriation .....	30,551.13	30,551.13	.....
Contingent .....	3,177.77	2,573.30	604.47
Dairy building .....	5,000.00	4,983.33	16.67
Dairy and live stock .....	1,500.00	1,499.73	.27
Horticulture and Veterinary .....	2,500.00	1,938.24	561.76
Salary .....	10,000.00	4,590.00	5,410.00
Student Labor .....	2,000.00	1,337.05	662.95
Totals .....	\$69,228.90	\$60,560.86	\$8,668.04

## BRANCH NORMAL COLLEGE.

FUNDS	RECEIPTS	EXPENDI- TURES	BALANCE
Building .....	\$ 78.68	\$ 70.87	\$ 7.81
Campus .....	3.41	.....	3.41
Contingent .....	1,890.29	1,635.33	254.96
Fuel .....	1,000.00	632.22	367.78
Furniture and desks .....	550.00	282.15	267.85
Insurance .....	600.00	600.00	.....
Janitor .....	600.00	187.50	412.50
Library .....	174.03	173.32	.71
Morrill .....	13,636.36	13,636.36	.....
Physics and Chemistry .....	100.00	.....	100.00
Repairs .....	2,500.00	654.36	1,845.64
Salary .....	16,601.50	7,812.50	8,789.00
Totals .....	\$37,734.27	\$25,684.61	\$12,049.66

At the present time, January, 1907, the above balances are about exhausted.

Respectfully submitted,

H. F. REAGAN, Secretary.

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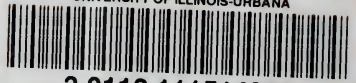








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